

# Why Do High School Students Lack Motivation in the Classroom? Toward an Understanding of Academic Amotivation and the Role of Social Support

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The present series of studies sought to develop and conceptually validate a taxonomy of reasons that give rise to academic amotivation and to investigate its social antecedents and academic consequences. In Study 1 ( $N = 351$ ), an exploratory factor analysis offered preliminary support for an academic amotivation taxonomy comprising four dimensions: ability beliefs, effort beliefs, characteristics of the task, and value placed on the task. In Study 2 ( $N = 349$ ), the proposed taxonomy was further corroborated through 1st- and 2nd-order confirmatory factor analyses, and its discriminant validity and construct validity were documented. Study 3 ( $N = 741$ ) offered evidence for a model of the relationships among social support (from parents, teachers, and friends), amotivation, and academic outcomes (e.g., achievement, academic self-esteem, intention to drop out). Results are considered in terms of an increased conceptual understanding of academic amotivation, and implications for curricula and interventions are discussed.

*Keywords:* academic amotivation, social support, self-determination theory, cognitive evaluation theory, school dropout

One of the most prominent academic problems plaguing today's teenage youth is a lack of motivation toward academic activities. Year after year, for reasons yet to be understood, numerous high school students find themselves in a state in which they do not have the desire to carry out the academic tasks required of them (Green-Demers & Pelletier, 2003). Indubitably, the absence of academic motivation can lead to feelings of frustration and discontentment and can encumber productivity and well-being.

One does not have to look far in order to discover a wealth of research detailing the reasons why students pursue academics. Indeed, the question of what motivates students to achieve is central to education and educational psychology. Accordingly, investigation of the various factors that give rise to academic motivation is extensive (e.g., Pintrich, 2003; Reeve, 2002; Ryan & Deci, 1999; please see Pintrich, 2001, for a complete journal issue

dedicated to academic motivation). Although academic motivation has received much conceptual and empirical focus, the fact remains that an abundance of high school students lack academic motivation (Snyder & Hoffman, 2002; Statistics Canada, 2002). Despite this fact, there has been little focus on the reasons why students neglect their studies. Moreover, these reasons may have clear categorical distinctions. It is evident that a deeper understanding of academic amotivation is needed (e.g., Hidi & Harackiewicz, 2000). Thus, the central objective of the present project was to conceptually validate the structure of academic amotivation. Our secondary aim was to investigate the social antecedents and academic consequences of such motivational deficits.

## Amotivation Within Self-Determination Theory

In the past 2 decades, the vast array of literature on what motivates students in the classroom has delineated the benefits of self-determined regulation in the academic setting (e.g., Reeve, 2002; Vallerand, Fortier, & Guay, 1997; Vallerand et al., 1993). According to self-determination theory (SDT; Deci & Ryan, 1985, 2002), behavior can be effectuated through intrinsic motivation (pleasure and interest-related motives), extrinsic motivation (instrumental motives), and amotivation (an absence of motivation). These three broad theoretical types of motivation fall along a continuum of self-determination, with amotivation comprising the nethermost extreme. Individuals become more self-determined as they internalize to a greater extent their reasons for executing a given behavior. Although intrinsically motivated behaviors represent the height of self-determination because they are undertaken

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freely and with pleasure, extrinsic motivation refers to the performance of an activity for instrumental reasons. In general, self-determined motivation has been associated with various positive outcomes, such as greater cognitive flexibility, conceptual understanding, and active information processing (Grolnick & Ryan, 1987) as well as better academic performance and academic self-concept (Deci, Vallerand, Pelletier, & Ryan, 1991; Reeve, Bolt, & Cai, 1999). Less self-determined forms of extrinsic motivation, on the other hand, have been linked to negative outcomes, such as depression, narcissism, negative affect, and physical symptoms.

The central tenet to the present project, amotivation (the absence of motivation), demarcates the class of behaviors that are either executed for reasons unknown or not executed at all. Amotivation can be defined as a state in which individuals cannot perceive a relationship between their behavior and that behavior's subsequent outcome (Deci & Ryan, 1985, 2002). Amotivated individuals cannot predict the consequences of their behavior, nor can they see the motive behind it. They may feel disintegrated or detached from their action and will thus invest little effort or energy in its effectuation. Such individuals will perceive their behavior as outside of their control. The state of amotivation has been likened to that of learned helplessness (Abramson, Seligman, & Teasdale, 1978). Correlates of amotivation have included attrition among competitive swimmers (Pelletier, Fortier, Vallerand, & Briere, 2001) and handball players (Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002) as well as boredom, nonattendance, and low involvement in physical education (Ntoumanis, Pensgaard, Martin, & Pipe, 2004). In the academic domain, amotivation has been associated with boredom and poor concentration in class (Vallerand et al., 1993), poor psychosocial adjustment to college, higher perceived stress at school and while studying (Baker, 2004), and, most disconcertingly, high school dropout (Vallerand & Bissonnette, 1992; Vallerand et al., 1997).

### *Toward a Taxonomy of Academic Amotivation*

Although SDT's traditional definition of amotivation is of focal importance, its treatment of it as a one-dimensional construct, specifically, as a feeling of general helplessness, might not reveal the whole picture of motivational deficit. Indeed, students are liable to lack motivation in school for many different reasons. We believe there are distinct forms of amotivation and that it may be best conceptualized as a multidimensional construct. Indeed, amotivation has received some attention as a multifarious concept in one prior study. The lack of motivation toward environmentally proactive behavior was examined by Pelletier, Dion, Tucson, and Green-Demers (1999). These authors proposed that environmental amotivation occurs for four different classes of reasons: strategy beliefs, ability beliefs, effort beliefs, and helplessness beliefs. That is, individuals may experience an absence of motivation to perform environmentally friendly behaviors because of the belief that ecological behaviors (e.g., recycling) are ineffective in producing the desired outcome, the belief that they do not have the personal ability to enact the required task, the belief that they cannot maintain the effort that is required by the behavior, or, finally, the belief that they are simply powerless in effectuating a suitable outcome. Support for these four dimensions of environmental amotivation has been established by exploratory factor analyses and confirmatory factor analyses (CFAs; Pelletier et al., 1999).

The present article builds on Pelletier et al.'s (1999) initial study by developing a taxonomy of academic amotivation. We have retained two of their four dimensions, as they are relevant in the academic domain as well. However, two additional variables carry specific relevance for academic behavior and have been developed and tested for the intentions of our investigation. Thus, the four subtypes of academic amotivation we propose are academic amotivation based on ability beliefs, effort beliefs, characteristics of the task, and value placed on the task.

### *Ability Beliefs*

This dimension of amotivation was directly adapted from Pelletier et al. (1999). The concept borrows from Bandura's (1977, 1982) notion of self-efficacy expectancy and Skinner, Wellborn, and Connell's (1990) theory that people hold expectations about their ability to apply appropriate strategies in order to execute a task. When perceived self-efficacy is high, more ambitious challenges are pursued, and a greater goal commitment is applied (Bandura, 1991). When self-efficacy is dubious, failure is perceived as a likely outcome. Indeed, it has been suggested that students who are most detached from school have little belief in their academic ability (Patrick, Skinner, & Connell, 1993) and that students attribute their academic difficulties to their low perceived competence (Wigfield, 1988). Students' self-concept of ability has also been identified as a defining factor in academic motivation (e.g., Eccles et al., 1993; Skinner et al., 1990). Accordingly, it has been found that poor academic achievement is one of the strongest predictors of high school dropout (Battin-Pearson et al., 2000; Cairns, Cairns, & Neckerman, 1989). It seems logical to assume, therefore, that poor belief in one's ability is a driving component of academic disengagement. In the context of the current study, ability beliefs represent students' self-appraisal of their ability to carry out the required academic tasks.

### *Effort Beliefs*

A second concept adapted from Pelletier et al. (1999), effort beliefs depict the student's desire and capacity to invest the energy or effort demanded by a given behavior. Students may be aware of what is required to fulfill academic requirements. They may also positively appraise their ability to do so. Nonetheless, they may still be academically unmotivated. This may be due to the fact that they do not believe they can initiate or maintain the effort that is required by academic tasks. In their study on school motivation, Skinner et al. (1990) revealed that belief in one's ability and in one's effort were both necessary antecedents to school performance. In particular, children had to believe that they could muster the effort required by the action, and adults became amotivated despite believing in their ability because they did not trust that they could sustain the effort required to complete their studies. Chouinard (2001), Eccles and colleagues (1993), and Patrick and colleagues (1993) have also noted that academic detachment results from a lack of ability or desire to exert effort.

### *Value Placed on the Task*

Amotivation can be described in terms of the individual's values in relation to the task at hand. It has been noted that the consid-

eration of values permits the prediction of behavior (Landy & Becker, 1987). Moreover, Ryan (1995) noted that amotivation stems from not valuing an activity. In fact, recent key articles include a lack of value as part of the definition of amotivation (Ryan & Deci, 1999, 2000). When the task is not an integral component of a student's life, or if, in effect, it is not important to the student, amotivation may result. Even if extrinsic in origin, when an undertaking is valued, it is internalized and thus executed out of willingness and adopted with a sense of volition. If there is no inner-acceptance of the activity, the student will not integrate the behavior as an expression of self. Thus, activities that are incongruent with self-expression are more difficult to maintain, and academic amotivation may be characteristic of school activities that are not expressions of one's self or of one's values. The act of devaluing school may lead to serious motivational deficit. To this assertion, Murdock (1999) documented that students who interpret their environments as conveying negative information about the value of school are more likely to develop motivational problems. Indeed, many researchers maintain that, in addition to beliefs about competence or efficacy, values need to be examined in order to fully understand academic behaviors (e.g., Bigelow & Zhou, 2001; Eccles et al., 1983; Pintrich & De Groot, 1990; Wigfield & Eccles, 1992, 1994).

### *Characteristics of the Task*

Not all school tasks are created equal. This dimension denotes the specific features of the academic task that may lead to amotivation. Research reveals that people must experience some form of pleasure or interest in order to effectuate behavior (Ainley, Hidi, & Berndoff, 2002; Deci, 1992; Renninger, Hidi, & Krapp, 1992). If the qualitative experience of the activity does not engage the knowledge or ability or stimulation of students, then it is unlikely students will favor it. When a task is void of interesting or stimulating qualities and when it is boring, routine, tedious, arduous, or irrelevant, amotivation may ensue. Such an activity is likely to be abandoned or neglected. Thus, the unappealing characteristics of the academic task may indeed lead to academic disengagement.

Amotivation due to ability beliefs, effort beliefs, characteristics of the task, and value placed on the task are conceptualized here as complementary aspects of amotivation. As such, although they are characterized by their distinct features, they also share a common core and are expected to covary with one another to a moderate extent. Amotivation subtypes are further theorized to constitute subcomponents of a higher order concept representing general amotivation, an overall feeling of alienation and helplessness, as described by SDT (Deci & Ryan, 1985, 2002). The shared qualities of the individual elements composing the amotivation taxonomy are ascribed to the overarching influence of this fundamental notion.

If the various forms of academic amotivation play a role in education, they should, presumably, lead to various academic outcomes. From a conceptual viewpoint, all four amotivation subtypes are surmised to be associated positively with detrimental consequences and to covary negatively with beneficial outcomes. This overall effect reflects the underlying influence of the higher order amotivation concept, which extends jointly to all four spe-

cific forms of amotivation. However, once shared interrelations are extracted, interesting unique associations should come into focus.

For instance, poor ability beliefs would likely result in poor academic performance, low academic self-esteem, and a higher intent of withdrawing from high school. Poor effort beliefs might also affect academic achievement, yet a retraction of effort is mostly likely to lead to undesirable academic behaviors (e.g., spending little or no time on homework, skipping class, being tardy). Behavior problems may be associated with amotivation due to task characteristics as well, because unappealing school work presumably fosters avoidance behaviors. Values give meaning to difficult or demanding activities. Devaluing school and schoolwork is thus a third factor that could be conducive to problematic academic behaviors. However, insubstantial academic values might also have more far-reaching repercussions by laying a foundation for the desire to drop out.

### *The Role of Social Support*

Academic amotivation is a complex phenomenon, partly because its boundaries stretch beyond the education domain to the broader social context in which the student is situated. More specifically, academic attitudes and behaviors are strongly influenced by key social agents in the student's environment, whether these be teachers, parents, or friends. The influence of these significant others can be illuminated using a subtheory of SDT: cognitive evaluation theory (CET; Deci & Ryan, 1985, 2002). A central tenet of this perspective is that social contexts that promote autonomy, competence, and relatedness will facilitate intrinsic and internalized motivation (Deci & Ryan, 1985, 2002).

### *Autonomy Support*

This dimension of social support refers to the events and environments related to the adoption of intentional behavior and involves the respecting, valuing, and nurturing of students' intrinsic motivation and self-determination. As such, the student perceives an internal locus of causality (De Charms, 1968). Self-determination is enhanced because the individual feels free to act out of free choice. In a scholarly context, teachers, parents, and friends can uphold a student's sense of autonomy by optimizing his or her opportunity to take initiative, while both asking for and respecting a student's opinions. Autonomy support recognizes the importance of moderate structure and guidance, while emphasizing the benefits of giving children (or students) freedom, volition, and responsibility for themselves. Research supports the conclusion that students' motivation benefits when teachers support their autonomy (e.g., Hamm & Reeve, 2002; Reeve, 2002; Reeve, Bolt, & Cai, 1999).

### *Competence Support*

Feeling competent is an important source of motivation. It is therefore important that an individual's social network support his or her feelings of competence and mastery. The art of conveying information effectively is central to pedagogy, and the student is most impacted by the transmittance of useful information that will allow him or her to put his or her learning to practice. It is equally important to provide constructive feedback to students on the

progress of their learning and to provide it in such a way that benefits their competence needs. This information exchange is crucial in defining the teacher–student relationship. However, parents and friends can also contribute significantly in this regard (Ryan, Stiller, & Lynch, 1994), and the effects of knowledge and competence support from teachers, parents, and friends are cumulative (Green-Demers, 2006).

### *Interpersonal Affiliation–Relatedness*

The need for interpersonal affiliation is met when students have the occasion to develop enriching relationships with others and when they feel that key social figures really care about them. Children and adolescents require close, stable, and nurturing associations with significant authority figures (Shahar, Henrich, Blatt, Ryan, & Little, 2003). In education, this need can be met if students and teachers take pleasure in forming relationships and interacting. Of course, parents and friends also play a large part in students' feelings of affiliation, fostering academic engagement and well-being when relations in the scholastic context are warm, supportive, and constructive (Green-Demers & Pelletier, 2003).

Plenty of research supports the unequivocal role of social support in academic motivation and success (e.g., Deci et al., 1991; Hardre & Reeve, 2003; Reeve, 2002). Students who perceive their social support networks (e.g., parents and teachers) as supporting and fuelling their autonomy and competence are more intrinsically motivated at school (Reeve et al., 1999). Additionally, students in classrooms with autonomy-supportive teachers are more likely to stay in school compared with students in classrooms with controlling teachers (Vallerand et al., 1997). Relatedness has also been shown to have a powerful effect on academic motivation (Furrer & Skinner, 2003; Ryan & Powelson, 1991). Although the role of social support in academic motivation has been well established in self-determination research, the nature of the relationship between inadequate social support and amotivation has not yet been explored.

To summarize, according to CET (Deci & Ryan, 1985, 2002), constructive interpersonal support promotes self-determined motivation. Reverse effects are expected when social interactions are unhelpful or, worse, when they thwart autonomy, competence, and relatedness. Under such circumstances, the level of autonomy of motivation declines. If it deteriorates sufficiently, heightened amotivation levels are expected to develop. The adverse effect of detrimental interpersonal behaviors is expected to extend in a similar manner to all amotivation subtypes. However, once mutual covariation is accounted for, specific interrelations are likely to emerge. That is, lack of competence support might impact more strongly on amotivation due to ability beliefs than other forms of amotivation. Also, positive values are related to a developmental process that requires relationships with benevolent role models. It is therefore suggested that low interpersonal affiliation is uniquely associated with amotivation due to devaluing academic pursuits. In addition, it may be useful to consider that different social support figures possibly fulfill particular roles. Because the classroom is presumably the primary forum in which academic learning takes place, teachers' influence is expected to be felt most keenly within the sphere of competence support. Given that parents and friends are key figures in students' interpersonal sphere, their influence may be most important in relatedness issues.

## The Present Studies

The first aim of the present investigation was to develop and validate a taxonomy of the different conditions that give rise to academic amotivation. This taxonomy comprises four dimensions corresponding to the four aforesaid theoretical classes of amotivation: ability beliefs, effort beliefs, characteristics of the task, and individual values relative to the task. Validation of the first- and second-order structure of the four-factor taxonomy of academic amotivation (ability beliefs, effort beliefs, characteristic of the task, and value placed on the task) was the primary focus of Studies 1 and 2, respectively. In addition, the discriminant validity and construct validity of amotivation dimensions were examined in Study 2.

Our secondary objective was to examine the conditions that give rise to the various forms of academic amotivation as well as their academic consequences. To this end, a model comprising social antecedents (i.e., interpersonal behaviors of teachers, parents, and friends), amotivation subtypes, and academic outcomes (i.e., self-reported performance, problematic academic behaviors, academic self-esteem, and intention to dropout) was investigated. This was the main purpose of Study 3.

### Study 1

The objective of this study was to provide preliminary evidence of the four-factor structure of the academic amotivation construct by means of an exploratory factor analysis. Using a large pool of items as a starting base, we hypothesized that it would be possible to retain four items per factor, which would adequately represent each of the four amotivation subtypes.

### *Method*

#### *Participants and Procedure*

Data were collected from 351 francophone high school students in the Ottawa–Gatineau region. Students were aged 12–18 years, with a mean age of 14 years. Students' self-reported grade-point average was 73.8% ( $SD = 10.66\%$ ). The sample included 182 girls, 165 boys, and 4 who did not report their gender. Students completed questionnaires at school, during class time.

#### *Measure: Academic Amotivation*

The principle measure of interest, L'Inventaire d'Amotivation Académique (Academic Amotivation Inventory; AAI), ascertains students' reasons for not wanting to study or do their homework. This measure was generated by a panel of motivation experts to reflect and measure the four proposed dimensions of academic amotivation: Ability Beliefs (e.g., "Because I don't have what it takes to do well in school"), Effort Beliefs (e.g., "Because I don't have the energy to study"), Characteristics of the Academic Task (e.g., "Because I find it boring"), and Value Placed on the Task (e.g., "Because studying is not important to me"). Students were first asked how often they experienced a lack of motivation to study or do school work. Then, they were asked to rate, from 1 to 7 on a Likert-type scale, the degree to which each statement corresponded with their reasons for not wanting to study or do school work (1 = *does not correspond at all*, 4 = *corresponds moderately*, 7 = *corresponds exactly*). The original version of the AAI contained 32 randomly presented items (8 per subscale) describing these aspects of academic amotivation. As Study 1 constituted the first step in the development of the academic amotivation taxonomy, our goal was to



test whether it was possible to retain four items that successfully represented each of the four proposed dimensions of academic amotivation. Thus, a data-reduction procedure was used, in which cross-loadings and weak items were systematically eliminated.

### Results and Discussion

In order to investigate the structure of the academic amotivation construct, we performed exploratory factor analyses using maximum-likelihood extraction and direct oblimin rotation. Results are displayed in Table 1. Scree-plot analyses revealed four factors with eigenvalues greater than or close to one, which accounted for a substantial portion (71.79%) of the total item variance. Factor loadings displayed a clean factor structure, which offered preliminary support for a four-dimensional conceptualization of academic amotivation. Moreover, the magnitude of factor loadings was satisfactory (i.e., loadings on target factors ranged from .36 to .98). Two cross-loadings were identified in this initial solution. Because the present study consisted of a first and exploratory phase of testing, this was not considered to be a major cause for concern. As can be seen in Table 2, the academic amotivation dimensions were positively and moderately correlated, and their homogeneity (Cronbach's  $\alpha$ ) was acceptable.

Thus, empirical evidence from Study 1 reveals that academic amotivation comprises four factors corresponding to the four theoretical distinctions outlined previously. Students seem to be amotivated in school for four distinct classes of reasons: lack of belief in their ability, lack of belief in their effort capacity, unappealing characteristics of the academic task, and finally lack of value

Table 2  
Correlations Among Dimensions of Academic Amotivation

Dimension	1	2	3	4
1. Value of task	—	.36	.66	.51
2. Ability beliefs	.38	—	.30	.55
3. Task characteristics	.66	.28	—	.64
4. Effort beliefs	.61	.55	.61	—
Cronbach's $\alpha$				
Study 1	.89	.86	.87	.76
Study 2	.89	.85	.88	.84

Note. Pearson product-moment correlations among the dimensions are presented above the diagonal (Study 1), and correlations among latent factors are presented below the diagonal (Study 2). All correlations are significant at the .001 level.

placed on the task. This structure now remains to be cross-validated and confirmed.

### Study 2

In order to statistically test the hypothesized structure of academic amotivation, we performed first- and second-order CFAs. We also implemented complementary procedures devised to provide information regarding the discriminant validity and construct validity of amotivation subtypes.

First, the factorial structure of academic amotivation was put to a more stringent test, by means of a standard CFA. It was hypothesized that the four-factor structure of the academic amotivation

Table 1  
Dimensions of Academic Amotivation (Study 1: Exploratory Factor Analysis)

Item	Value of task	Ability beliefs	Task characteristics	Effort beliefs
Because, for me, school holds no interest.	<b>.92</b>	-.09	.02	.00
Because studying is not valuable to me.	<b>.88</b>	-.02	.08	-.06
Because I have no good reason to study.	<b>.73</b>	.05	-.03	.08
Because studying is not important to me.	<b>.66</b>	.05	.05	-.06
Because I don't have what it takes to do well in school.	-.05	<b>.98</b>	.09	-.14
Because I don't have the knowledge required to succeed in school.	.00	<b>.79</b>	.01	-.06
Because I'm not good at school.	.02	<b>.67</b>	-.06	.22
Because the tasks demanded of me surpass my abilities.	.02	<b>.65</b>	-.01	.09
Because I find that studying is boring.	.04	.06	<b>.85</b>	-.02
I don't like studying.	.03	-.01	<b>.85</b>	-.01
Because I have the impression that it's always the same thing everyday.	.26	.08	<b>.57</b>	-.03
Because my school work is not stimulating.	.26	-.07	<b>.40</b>	.27
Because I'm a bit lazy.	-.10	.02	<b>.44</b>	<b>.50</b>
Because I'm not energetic enough.	.07	.19	-.21	<b>.48</b>
Because I can't seem to invest the effort that is required.	.24	.27	.00	<b>.45</b>
Because I don't have the energy to study.	.20	<b>.31</b>	-.06	<b>.36</b>
Eigenvalues	7.12	2.35	1.23	0.79
Percentage of variance explained	44.50%	14.68%	7.69%	4.9%
Correlations among factors				
Value of task	—			
Ability beliefs	.40	—		
Task characteristics	.61	.25	—	
Effort beliefs	.36	.49	.41	—

Note. Target loadings are in boldface; cross-loadings are underlined.

construct would be verified, that is, that evidence would be granted for the conceptualization of academic amotivation in terms of ability beliefs, effort beliefs, characteristics of the task, and value placed on the task. Second, a higher order CFA was conducted in order to extract a second-order factor that could account for each subdimension of academic amotivation. It was hypothesized that ability beliefs, effort beliefs, characteristics of the task, and value placed on the task would represent an overall amotivation construct akin to the general helplessness construct described by SDT (Deci & Ryan, 1985, 2002). Third, the discriminant validity of the proposed taxonomy was assessed by examining jointly the dimensionality of motivation and amotivation constructs.

Finally, correlations between academic amotivation and related psychological and behavioral constructs were calculated to provide information regarding the construct validity of our amotivation taxonomy. It was hypothesized that dimensions of academic amotivation would be negatively associated with beneficial outcomes (e.g., academic performance, time spent studying, academic self-esteem) and positively associated with detrimental consequences (e.g., intention to drop out, academic anxiety, lack of academic interest, indifference about academics).

### Method

#### Participants and Procedure

The sample for Study 2 was drawn from a pool of participants who took part in a large-scale high school motivation survey ( $N = 10,000$ ; Green-Demers & Pelletier, 2003). Students displaying a moderate to high level of academic amotivation were selected for the purpose of the present study by measuring students' response to a single item: "How often do you find that you do not want to study or do school work?" Those scoring at the midpoint and above on the 5-point Likert scale were retained (i.e., *sometimes*, *frequently*, and *all the time*), in order to eliminate participants for whom amotivation was irrelevant and to generate a sample of participants displaying varying degrees of amotivation. The remaining sample consisted of 349 francophone students from various high schools in the Ottawa-Gatineau region (57 boys, 290 girls, and 2 who did not report their gender). Students' ranged in age from 12 to 18 years, with a mean age of 14.6 years. Self-reported academic average was 76.5% ( $SD = 9.73\%$ ). Students filled out questionnaires at school during class time.

#### Measures

**Academic amotivation.** Students rated the 16 items that were retained from Study 1. For this sample, internal consistency of the AAI subscales ranged from .74 to .85.

**Academic motivation.** An abridged version of the Academic Motivation Scale (Vallerand, Blais, Brière, & Pelletier, 1989) was used to examine whether the four types of academic amotivation could be distinguished from motivational constructs. The Academic Motivation Scale is composed of five subscales (four items per subscale) designed to assess students' intrinsic motivation; extrinsic motivation by identified, introjected, and external regulation; and general amotivation. The psychometric properties of the Academic Motivation Scale are excellent and have been extensively documented. In the context of the present study, because of space constraints, a short version that included three items per subscale was used ( $.62 < \text{Cronbach's } \alpha < .83$ ).

**Self-reported behavioral and psychological measures.** In order to obtain associations between types of amotivation and theoretically related behavioral constructs, we asked students to report their academic performance (grade average), the amount of time they spent per week studying or doing school work, and their intention to drop out of high school.

Academic performance and time spent studying were assessed using single items designed for the purposes of the present study, and intention to drop out was measured by three items (Cronbach's  $\alpha = .75$ ). Students also rated their levels of perceived academic self-esteem (four items; adapted from Rosenberg, 1965; Cronbach's  $\alpha = .71$ ), disinterest (five items; adapted from Bennacer, 2003; Cronbach's  $\alpha = .73$ ), anxiety, and indifference (single items; adapted from Mayer & Gaschke, 1988) regarding academic pursuits.

### Results and Discussion

#### Structure of Academic Amotivation: First- and Second-Order Models

This analysis was specified as a typical measurement model wherein target loadings, item uniqueness values, and factor variances and covariances were estimated. Correlations among latent factors are displayed in Table 2. Results of the first-order CFA yielded the following fit indices, where *SB* refers to Satorra-Bentler:  $\chi^2_{SB}(98, N = 349) = 182.47, p < .001$ , comparative fit index (CFI) = .96, nonnormed fit index (NNFI) = .95, root-mean-square error of approximation (RMSEA) = .05, and standardized root-mean-square residual (SRMR) = .06, suggesting that the hypothesized model fits the data quite well.<sup>1</sup> All parameters estimated in the model were significant at the  $p < .01$  level. No post hoc model respecifications were required.

Having established a well-fitting first-order model, in the next step, we tested whether the four factors identified in our first model could be explained by the higher order structure of general academic amotivation (i.e., general academic helplessness). The validated hierarchical structure of academic amotivation is presented in Figure 1. Results revealed that the second-order amotivation model provides a good representation of the variance within the data,  $\chi^2_{SB}(101, N = 349) = 198.625, p < .001$ , CFI = .95, NNFI = .94, RMSEA = .05, and SRMR = .07. Together, these statistics confirm a well-fitting second-order model without the addition of post hoc model adjustments.

#### Discriminant Validity of Amotivation Subtypes

A CFA was performed that included the four amotivation factors under study along with four academic motivation factors borrowed from SDT (i.e., intrinsic motivation, extrinsic motivation by identified regulation, extrinsic motivation by introjected regulation, and extrinsic motivation by external regulation). Model

<sup>1</sup> The degree of model fit was assessed from several angles, using several criteria: the Satorra-Bentler scaled statistic ( $\chi^2_{SB}$ ; Satorra & Bentler, 1988), the comparative fit index (CFI; Bentler, 1990), the nonnormed fit index (NNFI; Bentler, 1990), the root-mean-square error of approximation (RMSEA; Steiger, 1989), and the standardized root-mean-square residual (SRMR; Jöreskog & Sörbom, 1993). The Satorra-Bentler scaled statistic was substituted for chi-square in the computation of the CFI and RMSEA, as it provides an adjustment that protects against potential deviations from the assumption of multivariate normality. These multiple criteria bring into focus issues of statistical and practical meaningfulness as well as parsimony. They were used to measure model fit in the present study because they are not redundant with one another and are widely recommended (Cheung & Rensvold, 2002). The hypothesized academic amotivation models were tested using the EQS program (Version 6.1; Bentler, 1992). A CFA with maximum-likelihood estimation was performed.

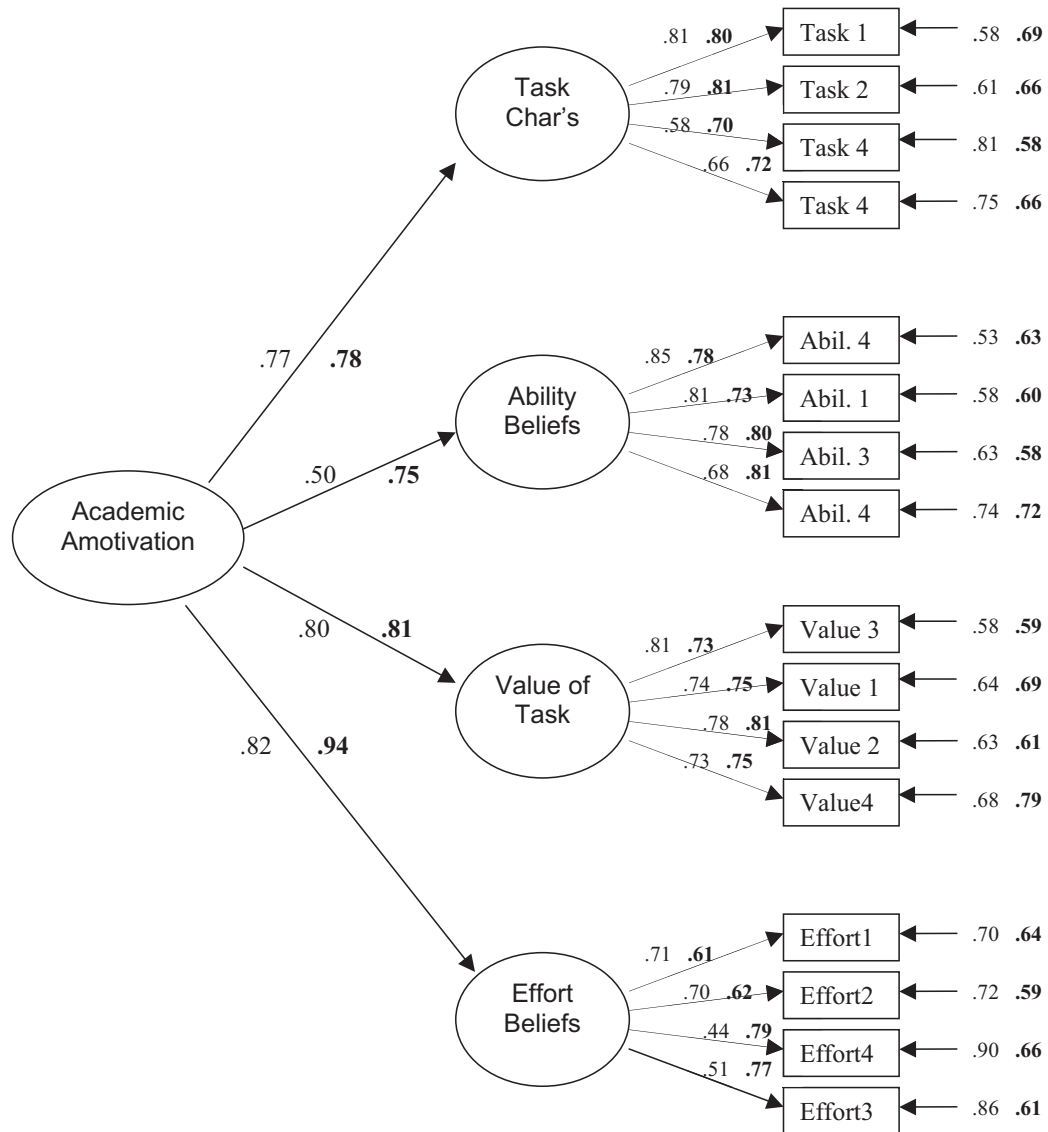


Figure 1. Validated hierarchical structure of academic amotivation. All parameters are significant at the .001 level. Model parameters for Study 2 are presented in normal typeface; model parameters for Study 3 are presented in boldface. Char's = characteristics; Abil. = ability.

specifications included the estimation of target loadings, item uniqueness values, and factor variances and covariances. Fit indices,  $\chi^2_{SB}(322, N = 349) = 456.71, p < .001, CFI = .95, RMSEA = .04, SRMR = .06,$  and a clean factor solution indicate that the proposed eight-factor structure fits the data very well, thereby suggesting that amotivation and motivation dimensions are separate entities.

*Associations With Relevant Behavioral and Psychological Variables*

In order to extend the construct validity of academic amotivation, we assessed correlations among the dimensions of academic amotivation and related behavioral and psychological constructs (see Table 3). As hypothesized, all four dimensions of academic

amotivation were associated positively with detrimental behavioral and psychological constructs. A reverse pattern of association was obtained for constructive outcomes. A few unexpected nonsignificant findings emerged. Academic anxiety was correlated with ability and effort beliefs but not with value placed on the task nor with task characteristics. In hindsight, there is indeed little reason for academic anxiety to be connected to the features of the task or to the student's academic value system. Also, indifference about academics was not correlated with ability beliefs. This is surprising, but it could be possible for students with high- and low-ability beliefs to feel indifferent toward school.

To summarize, Study 2 depicted an adequate, well-fitting model of academic amotivation among high school students. That is, according to all relevant and substantively meaningful fit indices discussed herein, the imposed hypothesized models fit the covari-

Table 3  
*Correlations Among Academic Amotivation Factors and Related Constructs (Study 2)*

Construct	Value of task	Ability beliefs	Task characteristics	Effort beliefs
Self-reported behavioral constructs				
Performance	-.12*	-.42***	-.13*	-.15**
Time spent studying	-.33***	-.18**	-.27***	-.23***
Intention to drop out	.46***	.36***	.35***	.27***
Self-reported psychological constructs				
Academic self-esteem	-.15**	-.46***	-.19***	-.21***
Lack of academic interest	.43***	.50***	.42***	.60***
Academic anxiety	.06	.30***	.10	.24**
Indifference about academics	.41***	.04	.24**	.32***

\*  $p < .05$ . \*\*  $p < .005$ . \*\*\*  $p < .001$ .

ance matrix observed in the sample. Theoretically, CFA results lend evidence to the conceptual validation of the four-dimensional structure of academic amotivation. It appears that high school students may indeed be academically amotivated for distinct classes of reasons. Results also corroborated the presence of a second-order helplessness factor that accounted for the common variance among amotivation subtypes. This higher order factor represents general amotivation, the global state of lacking the intention to act, as conceptualized by SDT (Deci & Ryan, 1985, 2002). Moreover, amotivation subtypes were successfully distinguished from other motivation constructs within SDT. Finally, as expected, each subtype of academic amotivation displayed significant associations with related psychological and behavioral constructs. With all of these findings in mind, our next step was to isolate the social antecedents that predict academic amotivation and its subtypes and to further explore associations between academic subtypes and academic outcomes.

### Study 3

How might parents, teachers, and friends contribute to the various forms of academic amotivation found in Studies 1 and 2? Do different types of interpersonal deficiencies (i.e., lack of autonomy, competence, and relatedness support) yield different kinds of amotivation? Do inadequacies in the social support furnished by important social figures play different roles in different types of academic amotivation? In turn, do amotivation subtypes predict important academic consequences, as suggested by Study 2 results? In order to better understand the problem of academic amotivation, Study 3 investigated relationships between the interpersonal support provided by parents, teachers, and friends, on the one hand, and students' academic amotivation, on the other. The subsequent impact of amotivation on academic behavioral and psychological consequences was also examined. Specifically, the goal of the present study was to test a model that simultaneously included associations among social antecedents, amotivation, and its consequences, using structural equation modeling procedures.

That is, Study 3 sought to assess the interrelations between the three forms of interpersonal support derived from CET (autonomy support, provision of useful information, and interpersonal affiliation) furnished by parents, teachers, and friends within the student's social milieu and the four dimensions of academic amoti-

vation (effort beliefs, ability beliefs, value placed on the task, and characteristics of the task). It was expected that inadequacies in social support from all three social figures would be correlated with all four dimensions of academic amotivation.

Nevertheless, once common variance among amotivation subtypes was accounted for, specific associations were expected to come to light. Amotivation due to ability beliefs was hypothesized to be more directly influenced by lack of competence support. Also, as influential role models are required for the development of a healthy value system, devaluing academic pursuits was hypothesized to result from deficiencies in interpersonal affiliation. Beyond these overall associations between dimensions of interpersonal support and amotivation subtypes, specific effects were also anticipated for sources of support. Different social figures fulfill different roles, which was likely to influence the dimensions of support that would have a more pronounced impact. Teachers' influence on amotivation was hypothesized to operate in a more focused manner through the channel of competence support. Alternatively, the impact of parents and friends on amotivation was hypothesized to be conveyed predominantly through interpersonal affiliation and relatedness.

Specific effects were also expected between amotivation subtypes and consequences. Here, outcomes were grouped under four global dimensions: self-reported academic performance, problematic academic behaviors, intention to drop out, and academic self-esteem. Low-ability and low-effort beliefs were hypothesized to be negatively associated with academic performance. Because a sense of purpose, an appreciation for the task, and a capacity for exertion are useful to promote conscientious behavior, lack of academic values, unappealing task characteristics, and low-effort beliefs were hypothesized to result in a higher incidence of problem behaviors. Low-ability beliefs were hypothesized to relate to low academic self-esteem. Lastly, the combination of lack of academic values and low-ability beliefs was hypothesized to result in a higher intention to drop out of high school.

Let us also note that CFAs were performed prior to the testing of the amotivation model described above. The purpose of these analyses was to cross-validate the findings pertaining to the dimensions of academic amotivation that were obtained in Study 2. Specifically, the second-order model of amotivation was tested



anew, and potential gender differences in the structure of academic amotivation were investigated by means of multiple-group CFAs.

### Method

#### Participants and Procedure

Participants were 741 Canadian francophone high school students (375 girls, 361 boys, and 5 who did not indicate their gender) from the Ottawa–Gatineau region. Students ranged in age from 12 to 19 years, with a mean age of 14 years ( $SD = 1.55$  years). Students' self-reported academic average was 75.6% ( $SD = 10.1\%$ ). Participants were asked to fill out a two-part questionnaire package at school, during class time, which took them approximately 30 min.

#### Measures

*Academic amotivation.* Here again, the finalized 16-item AAI was used to ascertain students' level of academic amotivation. For this sample, internal consistency (Cronbach's  $\alpha$ ) of the AAI subscales ranged from .81 to .86.

*Interpersonal style–support.* Social antecedents of academic amotivation were assessed using the Interpersonal Behavior Scale (IBS; adapted from Pelletier & Otis, 2002). This instrument rests on the framework of CET (Deci & Ryan, 1985, 2002). The IBS measures perceived autonomy support, perceived interpersonal affiliation (or relatedness), as well as perceived provision of information from people within the individual's social milieu. It comprises 12 items (4 items per subscale) and has been shown to display adequate psychometric properties (i.e., factorial structure, construct validity, and reliability; Pelletier & Otis, 2002). In the current study, internal consistency of the IBS subscales ranged from .77 to .88. The IBS was adapted for the purpose of the present project in order to assess the interpersonal styles of parents (12 items), teachers (12 items), and friends (12 items) separately, with the aim of painting a comprehensive picture of the student's social environment. That is, students were asked to report on their perceived level of autonomy support, competence support, and relatedness from teachers, parents, and friends. Items were rated on a 7-point Likert scale, ranging from 1 (*not at all*) to 7 (*completely*).

*Academic consequences.* The academic amotivation model included four consequences. First, performance was measured using three items designed for the purposes of the present study. Specifically, the students were asked to report their grade-point average on their latest report card and to rate their perceived proficiency in French and mathematics on a 7-point Likert scale (1 = *weak*, 4 = *average*, 7 = *outstanding*). Second, problem behaviors were evaluated by asking participants to report the number of hours that they spent studying and doing homework every week (reverse coded) as well as how frequently they were late for class and how frequently they skipped classes on a 7-point Likert scale (1 = *never*, 4 = *sometimes*, 7 = *frequently*). Third, as in Study 2, academic self-esteem was assessed using an adapted and abridged form of the Rosenberg Self-Esteem Scale (four items; Rosenberg, 1965). Finally, intention to drop out was evaluated using three items that were adapted from Vallerand and colleagues (1993).

#### Overview of Analyses

As per Study 2, the higher order factor structure of amotivation was tested using a second-order CFA. However, in Study 3, a test of invariance was conducted across gender in order to further examine the factorial structure and external validity of the four-dimensional academic amotivation construct.

The core of the analyses of Study 3 consisted of special structural equation models designed to evaluate the impact of social antecedents on academic amotivation and the subsequent impact of amotivation on a variety of academic consequences. These analyses proceeded in two separate steps. First, the hypothesized structural equation models were eval-

uated separately for teachers, parents, and friends. In each of these models, the influence of autonomy support, competence support, and interpersonal affiliation on the four subtypes of academic amotivation was assessed. The relationships between amotivation subtypes and academic consequences (i.e., academic performance, academic behaviors, academic self-esteem, and intention to drop out) were also evaluated. Second, invariance testing was performed on the models obtained for teachers, parents, and friends. The goal of this procedure was to allow for the statistical comparison of the magnitude of the relationships within the models across sources of social support.

### Results and Discussion

#### Preliminary Analyses: Factor Structure of Academic Amotivation

CFAs were performed to further test the structure of the academic amotivation construct. First, fit indices for the higher order model (depicting a general amotivation construct as being composed of four unique subtypes) suggested that the imposed hierarchical structure fit the data nicely,  $\chi^2_{SB}(101, N = 741) = 455.92$ ,  $p < .001$ , CFI = .94, NNFI = .93, RMSEA = .05, and SRMR = .06. Specific model parameters are presented in Figure 1.

Second, a test of invariance was conducted across gender for both the measurement (i.e., item loadings) and structural (i.e., factor covariances) components of academic amotivation. Model fit for boys and girls yielded adequate results, boys:  $\chi^2_{SB}(98, N = 361) = 270.62$ ,  $p < .001$ , CFI = .94, NNFI = .93, RMSEA = .06, SRMR = .05; girls:  $\chi^2_{SB}(98, N = 375) = 227.32$ ,  $p < .001$ , CFI = .95, NNFI = .93, RMSEA = .05, SRMR = .05; baseline multiple-group model (boys and girls together, unconstrained):  $\chi^2_{SB}(196, N = 741) = 497.68$ ,  $p < .001$ , CFI = .95, NNFI = .94, RMSEA = .04, SRMR = .05. No post hoc modifications were performed. Both the factor loadings and factor covariances were constrained across groups, in two consecutive steps. The first invariance model yielded a good fit to the data,  $\chi^2_{SB}(208, N = 741) = 519.63$ ,  $p < .001$ , CFI = .95, NNFI = .94, RMSEA = .04, SRMR = .05. Moreover, a nonsignificant change in chi-square,  $\Delta\chi^2(12, N = 741) = 21.94$ ,  $p > .001$ , as well as a change in CFI of .00 (Cheung & Rensvold, 2002)<sup>2</sup> indicated that there were no significant differences in the magnitude of item loadings between boys and girls. The test of invariance of factor covariances also yielded adequate fit indices,  $\chi^2_{SB}(210, N = 741) = 529.72$ ,  $p < .001$ , CFI = .95, NNFI = .94, RMSEA = .04, SRMR = .05, and a nonsignificant change in chi-square,  $\Delta\chi^2(14, N = 741) = 32.04$ ,  $p > .001$ , and change in CFI ( $\Delta$ CFI = .00), indicating that the associations among amotivation subtypes are also invariant across gender. These analyses indicate that the amotivation taxonomy is equally applicable to boys and girls.

<sup>2</sup> Cheung and Rensvold (2002) noted that changes in goodness-of-fit indexes are superior to a change in chi-square as tests of invariance because they are not affected by sample size. Moreover, in their 2002 article, Cheung and Rensvold argued that the change in CFI is one of the few difference statistics that is independent of both model complexity and sample size and not correlated with overall fit measures. These authors concluded that a change in CFI smaller than or equal to 0.01 indicates that the null hypothesis of invariance should not be rejected.

Table 4  
*Structural Equation Models: Invariance of Regression Coefficients Among Latent Constructs Across Support Groups*

Amotivation subtype	Social antecedents and academic motivation											
	Model 1: Teachers				Model 2: Parents				Model 3: Friends			
	AS	Comp	Aff	R <sup>2</sup>	AS	Comp	Aff	R <sup>2</sup>	AS	Comp	Aff	R <sup>2</sup>
Value of task			-.31 <sub>b</sub>	.10			-.52 <sub>a</sub>	.22			-.31 <sub>b</sub>	.10
Ability beliefs		-.18		.03			-.30	.07			-.23	.05
Task characteristics		-.22		.05		-.16	-.19	.11			-.34	.12
Effort beliefs		-.24		.06		-.21	-.11	.10			-.21	.05

Consequence	Academic amotivation and its consequences <sup>a</sup>				
	Value	Ability	Task	Effort	R <sup>2</sup>
Performance		-.39		-.34	.47
Problem behaviors	.21		.17	.38	.43
Academic self-esteem		-.65			.42
Intention to drop	.49	.28			.46

Note. Regression coefficients with different subscripts are significantly different at the .01 level across social support groups. All path coefficients that are common to more than one group are invariant, unless specified otherwise. Antecedents and consequences of amotivation were tested simultaneously for Models 1, 2, and 3 but are reported separately for ease of interpretation. All parameters were significant at the .05 level. AS = autonomy support; Comp = competence support; Aff = affiliation.

<sup>a</sup> The coefficients below are invariant across all three models.

#### *Antecedents and Consequences of Academic Amotivation*

**Correlations.** Pearson product-moment correlations revealed that all social support and amotivation variables were significantly correlated, except autonomy support from friends and characteristics of the academic task. Thus, overall, hypotheses were supported. Autonomy support, provision of useful information, and relatedness from teachers, parents, and friends were negatively associated with all four types of academic amotivation. The magnitude of these associations was modest to moderate ( $-.11, p < .01 < r < -.39, p < .001$ ). Hypotheses regarding associations between amotivation subtypes and academic consequences were corroborated as well. All amotivation dimensions displayed positive associations with detrimental constructs (i.e., problem behaviors and intention to drop out;  $.31, p < .001 < r < .49, p < .001$ ) and negative associations with beneficial constructs (i.e., academic performance and academic self-esteem;  $-.18, p < .001 < r < -.31, p < .001$ ). The magnitude of these associations was moderate.

**Structural equation models.** As described above, the hypothesized model was first assessed separately for teachers, parents, and friends. Equality constraints were applied thereafter across all structural relationships among latent factors. The associations between social antecedents and academic amotivation, on the one hand, as well as the associations between academic amotivation and its consequences, on the other hand, are displayed in Table 4. Initial results (i.e., individual analyses for each source of social support) revealed three models that displayed an acceptable fit to the data, teachers:  $\chi^2_{SB}(644, N = 741) = 1,261.39, p < .001, CFI = .91, NNFI = .90, RMSEA = .04, SRMR = .05$ ; parents:  $\chi^2_{SB}(640, N = 741) = 1,378.55, p < .001, CFI = .90, NNFI = .90, RMSEA = .04, SRMR = .06$ ; friends:  $\chi^2_{SB}(644, N = 741) = 1,410.34, p < .001, CFI = .91, NNFI = .90, RMSEA = .04, SRMR = .05$ . The fit remained satisfactory after invariance constraints were applied as well,  $\chi^2_{SB}(1949, N = 741) = 4,064.79, p <$

$.001, CFI = .91, NNFI = .90, RMSEA = .02, SRMR = .06$ . Please note that relationships between social antecedents and amotivation are presented separately for teachers, parents, and friends, because interesting noninvariant findings were obtained across sources of social support. Amotivation-consequences relationships were invariant across models and are thus represented only once.<sup>3</sup>

Our first set of research hypotheses regarding the unique effects of social support on academic amotivation pertained to associations that were expected to hold across all three sources of support. Specifically, it was hypothesized that a negative relationship would be obtained between competence support and amotivation due to ability beliefs, for teachers, parents, and friends. This hypothesis received weak and partial support. This association was not statistically significant for parents and friends. A modest relationship was obtained for teachers. Next, it was also hypothesized that, for all three social groups, interpersonal affiliation would relate negatively to amotivation due to a lack of academic values. This hypothesis was indeed supported. Perception of affiliation was negatively related with a lack of academic values for all three social groups. This finding indicates that relatedness with

<sup>3</sup> It is important to keep in mind that when a relationship occurs in one model and not in another, it obviously denotes a statistically significant difference between these groups. Regression coefficients that are typical to a group are instances of noninvariance. Therefore, when significant and nonsignificant paths are compared across groups below, we are reporting and discussing instances of noninvariance, even if it is not explicitly stated each time, for the sake of brevity. When a path occurs in more than one group, invariance testing (Lagrange multiplier test; Bentler, 1992) allows us to determine whether the variation in the magnitude of the regression coefficient is significant, and those differences are duly noted and commented on.

teachers, parents, and friends offers a unique complementary contribution to the prediction of values related to academic pursuits. Moreover, it is interesting to note that invariance testing revealed that this association was of statistically higher magnitude for parents than for teachers and friends ( $p < .01$ ), thereby suggesting that parents have a more important influence on academic values than do teachers or friends.

Our second set of hypotheses predicted that different social figures play different roles, which would influence the dimensions of support that would have a more pronounced impact. Strong overall support was obtained for this notion. First, teachers' influence on amotivation was expected to be more germane to competence support. Indeed, teachers' competence support was negatively associated with amotivation due to ability beliefs, effort beliefs, and task characteristics. The association between teachers' competence support and amotivation due to a lack of values was not significant. Second, it was hypothesized that the impact of parents and friends would be conveyed predominantly through interpersonal affiliation. For parents as well as for friends, interpersonal affiliation was associated negatively with all four amotivation subtypes. With the exception of the association between affiliation and lack of academic values described above, all remaining associations between relatedness and amotivation subtypes were invariant between parents and friends. Please note that two unexpected associations emerged for parents as well: Competence support was associated negatively with amotivation due to task characteristics and effort beliefs.

Associations between amotivation subtypes and consequences were invariant across sources of support. Results provided overall support for our research hypotheses. First, amotivation due to low-ability and low-effort beliefs displayed negative significant relationships with academic performance. Second, lack of academic values, unappealing task characteristics, and low-effort beliefs were associated with a higher incidence of problem behaviors. Third, low-ability beliefs were related to low academic self-esteem. Finally, the combination of lack of academic values and low-ability beliefs was associated with a higher intention to drop out of high school, and the regression coefficient for lack of values was twice as high as that for ability beliefs.

To summarize, correlations indicated that, as hypothesized, social support dimensions and amotivation subtypes were negatively associated. Amotivation subtypes also displayed overall positive associations with detrimental constructs and negative associations with beneficial constructs. Structural equation modeling analyses were further performed to examine unique associations among the variables under study. That is, invariance testing allowed for the examination of the associations in the hypothesized model within and across three groups of social support (i.e., teachers, parents, and friends). Results generally offered support for the research hypotheses, the one exception being the nonsignificant relationship between competence support and amotivation due to ability beliefs in the parents and friends model. This problem is addressed in the General Discussion section below.

As for corroborated hypotheses regarding social antecedents, the most striking relationship that was common to all three groups was the negative association between interpersonal affiliation and amotivation due to a lack of values. This association was significant in all three groups but was substantially more important for parents than for teachers or friends. Still within the realm of social ante-

cedents, important differences among groups included the prevalent influence of competence support for teachers and the predominant impact of relatedness for both parents and friends.

In terms of consequences of academic amotivation, results perfectly supported our research hypotheses. Some of these associations were relatively unsurprising (i.e., low-ability beliefs being negatively related to academic self-esteem or low-ability and low-effort beliefs predicting poor academic performance). Yet, certain relationships were particularly informative and meaningful. Problem behaviors, for instance, were predicted by a combination of amotivation due to a lack of values, unappealing task characteristics, and low-effort beliefs. Several facets of motivational deficits thus appear to play a role in the occurrence of academic misconduct. Also, intention to drop out was predicted jointly by low-ability beliefs and lack of academic values. The association between low academic ability and dropout has been thoroughly documented, but the substantial contribution of lack of academic values to the prediction of the intention to drop out is intriguing and deserving of further attention in future studies.

## General Discussion

The central objective of the present set of studies was to develop and validate a comprehensive taxonomy of academic amotivation. SDT (Deci and Ryan, 1985, 2002) conceptualizes amotivation as the utmost state of motivational deficit. This depleted form of behavior regulation implies a dereliction of the intention to act. It is also characterized by feelings of alienation and helplessness. Amotivation represents the nadir, the nether limit of motivation's downfall. The four subdimensions of amotivation composing the amotivation taxonomy proposed herein represent different facets of this lowermost motive.

Taken together, findings from Studies 1, 2, and 3 provide convincing evidence for the multidimensional nature of academic amotivation. Results from exploratory factor analyses and CFAs indicate that students are amotivated in school for four different classes of reasons: their ability beliefs, effort beliefs, value placed on academic tasks, and characteristics of the academic tasks. On a more general level, taken with previous research in the environmental amotivation domain (Pelletier et al., 1999), it appears clear that the construct of amotivation in general is multifaceted.

Moreover, the second-order CFAs conducted in Studies 2 and 3 characterize academic amotivation as a higher order construct comprising four subdimensions. This higher order factor possibly corresponds to general amotivation, the overall state of alienation, helplessness, and passivity that is described by SDT (Deci & Ryan, 1985, 2002). Furthermore, tests of the invariance of the academic amotivation taxonomy across gender revealed that both the measurement and structural model were invariant. That is, no significant factor loading or factor covariance differences were detected between boys and girls. These results indicate that boys and girls evaluated the individual elements of each of the four amotivation subtypes in an equivalent manner and that the magnitude of associations among amotivation subtypes was the same for both subsamples. These findings suggest that the validity of the amotivation taxonomy extends across gender.

Correlations among the four academic amotivation factors also support the proposed taxonomy. That is, in all three studies, moderate interfactor correlations suggest that the four subtypes of

amotivation are components of the same higher order factor yet still retain a respective amount of unique variance. Finally, amotivation dimensions displayed satisfactory reliability in all three studies.

Results of Studies 1, 2, and 3 fuse nicely with much of the extant literature on depleted academic drive. In support of the dimensions of ability beliefs and effort beliefs, it has previously been noted that students who believe that they are neither smart nor capable of exerting effort are indeed those students who are most detached from school (e.g., Eccles et al., 1993; Patrick et al., 1993; Skinner et al., 1990). Wigfield and Eccles (1994) also suggested that beliefs about competence and efficacy influence achievement, performance, choice of school tasks, academic goals, amount of effort exerted, types of cognitive strategies used, as well as overall self-worth. In addition, Dweck (2002) emphasized that self-perceptions of academic ability as well as reasoning about personal aptitude play a central role in achievement motivation. It seems clear indeed that students' beliefs about their academic ability and capacity for effort are inherently linked to academic withdrawal.

Research to date has also cited the importance of values in academic disengagement (e.g., Murdock, 1999). The extent to which students can see the value of and attachment to the schooling process is a factor in academic commitment (Battin-Pearson et al., 2000; Murdock, 1999) and academic achievement (Hanson & Ginsburg, 1988). Indeed, students are more likely to succeed when significant others, especially adults, openly value academic success (Astill, Feather, & Keeves, 2002; Janosz, 2000). Values affect behaviors by influencing the perceived desirability of situations and experiences, and by contributing to the organization of personal goals (Emmons, 1989; Feather, 1995; Kasser, 2002). The development of self-driven values is said to pave the way for the internalization of self-determined extrinsic motivation (Kasser, 2002; Ryan, 1995). Vacillating or absent values are therefore liable to connote a fundamental defect or disorganization of behavior regulation processes.

Less research deals with the impact of task characteristics themselves in the experience of amotivation. However, it has been noted that situationally triggered interest is beneficial for students' academic enthusiasm (Hidi & Harackiewicz, 2000) and that it enhances the quality of their experience in the classroom (Schiefele, 1994). Although much amotivation stems from within the student, it seems unfair to assume that all school tasks are inherently inspiring or interesting and that students should feel motivated to perform them. Certainly, tasks that students perceive as uninteresting, uninspiring, monotonous, or dull should be reexamined in an attempt to make them more appealing. Our characteristic of the task dimension succeeds in tapping the less appealing aspects of task performance as a source of academic amotivation.

Finally, in support of the higher order factor of general academic helplessness, previous research has demonstrated that students who experience deflated competence and efficacy believe that their academic situation is permanent and that there is nothing they can do about it (Boggiano et al., 1992; Chouinard, 2001). It has also been noted that amotivated students feel as though external factors control their destiny (Janosz, 2000). In other words, they feel a loss of control and a general sense of helplessness, which is the core feature of our higher order dimension of academic amotivation, as defined by SDT (Deci & Ryan, 1985, 2002).

As hypothesized, the construct validity correlations in Study 2 revealed a general pattern wherein all subtypes of amotivation were negatively correlated with beneficial academic constructs and positively correlated with problematic academic constructs. These overall associations are deemed to reflect the influence of the common variance shared by amotivation subtypes, which is theorized to represent the manifestation of the overarching general amotivation concept.

Study 3 lends insight into the social antecedents and consequences of academic amotivation. Correlations revealed that all dimensions of social support are negatively associated with all types of amotivation and that amotivation subtypes are negatively related to adaptive academic outcomes and positively related to detrimental academic consequences. Accordingly, CET (Deci & Ryan, 1985, 2002) posits that a sufficiency in all three forms of support is important for intrinsic and self-determined extrinsic motivation to learn. That diminished social support from key figures within the student's academic world is reliably associated with academic amotivation satisfies our main hypothesis. This finding lends corroborative evidence to CET, such that interpersonal climate influences not only the level of motivation in the educational setting but the level of amotivation as well. Thus, although Studies 1 and 2 reveal that students are amotivated for different classes of reasons, Study 3 suggests that these reasons stem from inadequate social support. From here we attempted to tease out the unique effects of certain forms of social support on specific subtypes of amotivation and to assess, in turn, the unique academic consequences associated with each type of amotivation. To this end, three models were tested individually using structural equation modeling: one for teachers, one for parents, and one for friends. Fit indices for each model were adequate and remained adequate after equality constraints were applied across the three social support groups. These relationships are described next.

We hypothesized that a lack of competence support would be associated with low-ability beliefs and that low-ability beliefs would, in turn, be associated with poor performance, low academic self-esteem, and intention to drop out. Although this pattern did indeed emerge, the influence of competence support was only observed for teachers. As mentioned previously, it makes sense that the dissemination of academic information would be felt more strongly from teachers than from parents or friends. Accordingly, these results suggest that students may be looking more fervently to teachers for information that supports their academic abilities. We also hypothesized that relatedness deficiencies would predict the devaluing of school and that the devaluing of school would subsequently predict maladaptive academic behaviors (i.e., insufficient time spent studying, skipping class, tardiness) and intention to drop out. Indeed, this was the case for all three social figures. This coincides with the notion that role models play an important part in the socialization of values (e.g., Kasser, Ryan, Zax, & Sameroff, 1995). Although affiliation with all three social figures seems important in developing academic values, a test of invariance revealed that the affiliation-value link was strongest with parents. Undoubtedly, parents play a pivotal role in their children's development and socialization, which is likely to have far-reaching implications for children's value system (or lack thereof). In the academic domain, such insufficient socialization of school values yields its worst repercussion as a strong association with intention to drop out. It has previously been established that family charac-



teristics (e.g., instability, parents' education level) are known predecessors of scholastic problems (Franklin, 1992). Results herein suggest a payment of heed to the ubiquitous role of parents in establishing the positive interpersonal climate required to increase self-determination at school. Indeed, the present findings emphasize the crucial, and yet often unrecognized, importance of interpersonal affiliation in academic amotivation. Although the bulk of the research in self-determined academic motivation has focused on autonomy support, the results herein suggest a movement toward the social climate of relatedness and an exploration of the role of affiliation in fostering academic interest and values (e.g., Ryan & Powelson, 1991).

In terms of the unique effects for sources of social support, our hypotheses were corroborated. That is, teachers exerted their academic impact mostly through competence support, which underscores once again the importance of teachers in providing their students with the information and feedback required to fuel academic motivation. Parents and friends displayed their influence most strongly through relatedness, which seems appropriate given that students almost certainly share closer personal relationships with these support sources.

Unsurprisingly, diminished effort and ability beliefs displayed moderately strong associations with poor academic performance. It seems appropriate that confidence in one's ability and in one's capacity for effort would be required to succeed in school and that deficiencies in one or the other would blight achievement (e.g., Dweck, 2002). Fittingly, low-ability beliefs were the sole antecedents of poor academic self-esteem. Task characteristics and value placed on the task were both associated with adaptive academic behaviors, but poor effort beliefs revealed the strongest association with such behaviors. It is not surprising that when students feel unable to invest effort, there is a greater chance they will be late for class, skip class, and spend little time studying. As mentioned previously, value placed on academics demonstrated the strongest association with students' intention to drop out, underscoring once again the crucial role of values in the development of self-determined motivation to learn (e.g., Deci & Ryan, 1985, 2002). Students need to believe in, and identify with, tasks that require time and effort. If students value what they are doing, then they are likely to commit to it, even if it is not particularly enjoyable.

A deeper understanding of the composite construct of academic amotivation as well as its antecedents and consequences will no doubt have important applied implications. The separation of amotivational subtypes gives researchers a tighter grasp on the precise causes of negative academic consequences, the culmination of which is high school dropout. Recent years have attested to the fact that high school dropout is still a major problem plaguing today's youth and the education system. Indeed, a high number of young Canadians and Americans drop out of high school every year (Snyder & Hoffman, 2002; Statistics Canada, 2002). This kind of trend has enormous social, psychological, and economic ramifications. For the student, high school dropout can result in decreased quality of life, both present and future (Lafleur, 1992). It can lead to restrictions in employment, dependence on social compensation, and even criminal behavior (Garnier, Stein, & Jacob, 1997; Newcomb et al., 2002). Researchers know already that students with more self-determined forms of motivation for doing school work have been found to be more likely to stay in school compared with those with less self-determined motivation (Hardre & Reeve, 2003;

Vallerand et al., 1997). However, the present findings clarify that the intention to drop out is predominantly a function of academic amotivation based on the devaluing of academics. Moreover, such devaluing of academics seems to stem from thwarted relatedness with parents, teachers, and friends but especially from parents. Thus, the role of parents' diffusion of academic values for the prevention of high school dropout deserves further consideration within curricula and intervention.

And although it would be prudent for parents, educators, and policymakers to turn their attention to the reasons why students are amotivated in school, the function of relatedness with peers in spreading academic amotivation is also a distinct concern for adolescents. High school students are at an age where they generally spend far more time with friends than with parents and teachers combined. Given the significant influence of peers during adolescence, the role of peer deviance in high school disengagement and dropout is a major concern. It is equally worrisome that students who lack friends, or who lack supportive friends, may be less likely to succeed in school. Peer relationships play an often unrecognized role in academic motivation and academic competence (Wentzel, 2005). Moreover, it has been shown that students' beliefs about their friends' academic values influence their sense of school belongingness, academic motivation, valuing of school work, and investment of effort (Goodenow & Grady, 1993). It has been noted that academic peer support groups have a positive impact on school morale and engagement (Thompson, 1996; Wassef, Masson, Collins, Vanhaalen, & Ingham, 1998) as well as academic and social self-esteem (Blair-Mcevoy, 1998). Indeed, the role of peer support groups at school, either within the curriculum or in the form of extracurricular involvement, may be an important and cost-effective way to approach the problem of academic amotivation and thus the more omnipotent threat of high school dropout.

In addition to the practical applicability of the present findings, implications for the broader context of SDT extend in several ways. For instance, the sharpened delineation of amotivation may add theoretically to the current model of organismic integration theory (Deci & Ryan, 1985, 2002), such that the classification of motivational subtypes along the internalization continuum may show forethought to include, in addition to the current emphasis on the various forms of behavioral regulation, a revised view of behavioral and motivational deregulation. In other words, if the results offered in the current set of studies were to be validated across domains in future research, then it might seem reasonable to extend not only the way SDT defines amotivation in particular but also the complexity of the self-determination continuum in general. It would be interesting if further studies examined amotivation as a separate and complex phenomenon, not merely as an absence of intrinsic and extrinsic motivation. Indeed, with the exception of general amotivation, the self-determination continuum encompasses motivation constructs that represent various forms of behavior regulation. By examining the intricacy of the amotivation construct, future research and theory could endeavor to expand our understanding of behavioral deregulation.

In addition, our results extend the relevance of CET (Deci & Ryan, 1985, 2002) to extreme adverse scenarios in which specific deficiencies in social support create manifold expressions of motivational deficits. Thus, future research might want to consider more closely the role of social support in producing amotivation,

rather than only focus on the role of the environment in producing controlled and autonomous motivation. To go a bit further, it may also be sensible for self-determination theorists to consider the role of psychological need satisfaction in mediating the influence of environmental support on amotivation. The current findings suggest that need thwarting may produce negative forms of motivation, which in turn may produce identifiable negative consequences. Additional questions might also want to address whether the role of the social environment on need satisfaction affects specific types of amotivation.

Finally, the current project bears fundamental implications for further contemporary extensions of SDT, such as the hierarchical model proposed by Vallerand (1997). This theoretical model suggests that the motivational entities put forth by SDT arise within all stages of a hierarchy defined by three levels of generality. That is, behavior regulation can be typical of a specific situation, of a more general domain (e.g., education, work, sports, etc.), or of an overall personality orientation. Dynamic interrelations are theorized to occur within this system, and the three levels of motivation are said to mutually influence one another. Future research could examine whether our amotivation taxonomy can be integrated within the hierarchical model of human motivation, as amotivation subtypes are liable to manifest themselves in a variety of specific and general contexts.

The importance of this research rests in the fact that motivation, and in this case, the lack thereof, precedes and predicts academic behavior. Motivational orientation has consistently been identified by researchers, particularly self-determination theorists, as a reliable and accurate predictor of school success and failure. Indeed, the evidence to this effect is impressive. The works described herein provide an extension of this already comprehensive body of knowledge, by illuminating the processes involved in amotivation. SDT conceptualizes amotivation as the absence of motivation, the absence of intrinsic or extrinsic incentive for behavior and growth. However, it seems that amotivation is itself an entity, a complex and multifaceted process, which is not so much an absence as a broad effect of unmet needs. This research comprises the first few steps in understanding the intricate, misinterpreted, and debilitating process of academic inertia.

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