This paper examines the relationships among motivation, metacognition, and proficiency in listening comprehension. Adolescent learners of French (N = 57) completed two questionnaires. A motivation questionnaire tapped student responses to three orientations related to motivation: amotivation, intrinsic, and extrinsic. A metacognitive awareness questionnaire tapped the metacognitive strategies students reported using when listening to authentic texts in French. Student responses on both instruments were correlated to determine any possible relationship between the three types of motivation and the metacognitive listening strategies. Responses to the motivation questionnaire were also correlated with listening proficiency, as determined by a listening comprehension test. As hypothesized, students reporting a greater use of metacognitive strategies also reported more motivational intensity, with some evidence of a self-determination continuum evident in the response patterns. Listening proficiency correlated negatively with amotivation; however, correlations with intrinsic and extrinsic motivation were not as high as anticipated. The results of this study provide some empirical support for the hypothesized links between self-determination theory, self-regulated learning, learner autonomy, and metacognition.

Motivation plays a key role in the rate and success of second or foreign language (L2) learning, particularly classroom language learning. Dörnyei (1998: 117) argues that ‘motivation provides the primary impetus to initiate learning the L2 and later the driving force to sustain the long and often tedious learning process.’ Motivation, however, is a complex, multi-faceted construct (Gardner 1985; Williams and Burden 1997). It includes factors such as: the value students attach to a task; how much students expect to succeed; whether they believe they have what it takes to succeed; and what they perceive to be responsible for their success or failure at the task (Chamot et al. 1999). These factors, identified in models of motivation, such as value, expectancy, self-efficacy, and attributions, are equally important in sustaining self-regulated learning; that is student use of cognitive and
metacognitive strategies to control and regulate their learning (Pintrich 1999).

Since it is theoretically plausible that effective use of learning strategies may sustain motivation in language learning (Dörnyei and Skehan 2003), this study will explore the potential relationship between motivation and metacognition,1 with particular reference to the cognitive and metacognitive strategies students use in L2 listening comprehension. This relationship will be examined using the motivational orientations of self-determination theory (Deci and Ryan 1985), extended to motivation in L2 learning by Noels and collaborators (Noels et al. 2000), because this theory views motivation as dynamic and adaptable through teacher intervention. Moreover, self-determination theory is closely linked to self-regulated learning (Ryan and Deci 2000) and autonomy (Dickinson 1995; Ehrman and Dörnyei 1998), both important to the facilitation of better learning.

In the first three decades of research on motivation and L2 learning, motivation was seen primarily as a relatively stable learner trait. Grounded initially in Gardner’s socio-educational model (developed to explain classroom L2 learning), motivation was linked to attitudes towards the L2 community, in addition to a desire to learn the L2 (Gardner 1985). This model posited two orientations (clusters of reasons for learning an L2): an integrative orientation through an interest in interacting with the L2 language group; and an instrumental orientation through an interest in the more practical advantages of learning a new language, such as job advancement. The integrative component of Gardner’s work, whether it be the integrative orientation, integrativeness or the integrative motive, is consistently cited in empirical studies as ‘explaining a significant portion of the variance in language learners’ motivational disposition and motivated learning behaviour’ (Dörnyei 2003: 5). Research has emphasized the integrative component, while the instrumental component has received less research attention by Gardner and colleagues.

Beginning in the 1990s, there was a shift towards viewing motivation as a more dynamic factor, more cognitive in nature, and more grounded in the educational contexts where most L2 learning takes place. This understanding views motivation as a continuously evolving construct, subject to various internal and external influences confronted by the learner (Dörnyei 2001b). This reconceptualization of motivation opened up the research agenda for investigation of relationships between motivation and other aspects of language learning behaviour commonly associated with the classroom (Crookes and Schmidt 1991; Ushioda 2001).

One such formulation which captures both the dynamic dimension of motivation and its relevance for classroom applications is self-determination theory. Conceptualized by Deci and Ryan (1985, 1995), the theory focuses on ‘the degree to which people endorse their actions at the highest level of reflection and engage in the actions with a full sense of choice’ (Ryan and Deci 2000: 68). In self-determination theory, the focus is mostly on two
general orientations to motivation: one based on intrinsic interest in the activity *per se*, and the other based on rewards extrinsic to the activity. Deci and Ryan argue that different types of extrinsic and intrinsic motivation can be classified on a continuum according to the extent to which the motivation is self-determined or internalized within the learner. Dörnyei (1998) suggests several advantages for using this framework in L2 motivation research: (1) its comprehensive nature allows for the inclusion of a large number of L2 learning orientations; (2) a continuum of motives suggest the possibility of a change in motivational orientation; and (3) the spectrum allows for a valid assessment of empirical evidence of L2 learner motivation using this framework as a reference point.

The self-determination framework consists of three orientations to motivation that lie on a continuum of increasing self-determination: amotivation, extrinsic motivation, and intrinsic motivation. First, amotivation (AM), the least self-determined end of the continuum, is reflected by learners who see no relation between their actions and the consequences of those actions. Amotivated language learners have the impression that they are wasting their time studying the L2. They do not value language learning, do not feel competent to do it or do not expect to be successful (Ryan and Deci 2000). AM implies a lack of motivation; it is often associated with ‘learned helplessness’ (Seligman 1975) and most often manifests itself in disengagement, passive acquiescence, and apathy. AM is not to be confused with demotivation which refers to a reduction of motivation due to some specific external force (Dörnyei 2001a).

Extrinsic motivation (EM) is manifested through a focus on achieving some kind of instrumental end. It can be divided into three subtypes, each one increasingly self-determined: external regulation, introjected regulation, and identified regulation. First, external regulation refers to pressure or reward from the social environment to learn a language, for example getting a good job. Second, introjected regulation refers to more internalized reasons for learning an L2; for example to prove that one is a good citizen. Third, identified regulation, the most self-determined form of EM, refers to personal choice, priority, or value placed on the outcome of language learning; for example choosing to be the kind of person who can speak more than one language. A characteristic of the sub-types of EM is that they all imply some kind of external coercion which, once removed, may result in the language learner abandoning L2 learning (Noels, Clément, and Pelletier 2001).

IM, the most self-determined form of motivation, refers to internal factors such as enjoyment and satisfaction for oneself. Vallerand and colleagues (Vallerand 1997) have extended this dimension of self-determination theory further by dividing IM into three subtypes, each increasingly more self-determined. First, IM-Knowledge is the motivation to perform an activity for the feelings associated with exploring new ideas and developing knowledge, for example enjoying the feeling of learning about French-speaking people and their way of life. Second, IM-Accomplishment refers to the sensations
related to attempting to master a task or achieve a goal, for example the feelings experienced when one understands a difficult idea in French. Third, IM-Stimulation, the most self-determined of all the motivation sub-types, refers to motivation based simply on the sensations stimulated by performing the task, such as aesthetic appreciation, fun and excitement, for example the pleasure of hearing French spoken by French speakers. According to Ryan and Deci (2000), the feelings of satisfaction in IM come from a sense of competence, autonomy, and relatedness.

The validity of the self-determination framework for assessing learner motivation in L2 settings has been empirically tested by Noels and collaborators (Noels, Clément, and Pelletier 1999, 2001; Noels et al. 2000). In the case of adult anglophone students learning French (Noels et al. 2000), they found evidence of a pattern of increased correlations between each of the sub-scales, reflecting a continuum of increasing self-determination: from AM to incipient self-determined forms of motivation (EM) and then to more self-determined forms of motivation (IM). Moreover, Noels, Clément, and Pelletier (1999) found that more self-determined forms of motivation (e.g. IM) were related to perceptions of the environment as non-controlling, lower feelings of anxiety, and the intention to continue L2 studies. They suggested that this finding provides empirical support for the argument that language programmes emphasizing autonomy will likely foster student motivation, since perceptions of freedom of choice and perceived competence are linked to more self-determined forms of motivation. The important connection between self-determination and autonomy is also highlighted by Dickinson (1995) and Dörnyei (1998), who argue that intrinsically motivated learners are more effective learners because the locus of control is internalized.

The results of a study of adult francophone learners of English (Noels, Clément, and Pelletier 2001) indicated that the constructs of identified regulation, external regulation, and the integrative orientation were equally and most strongly endorsed by these students. Moreover, greater perceived autonomy and competence were found to be indicative of more identified regulation and IM, which in turn predicted greater motivational intensity and persistence in the study of the new language. Only IM and the integrative orientation, however, were significantly related to final grades. Based on this finding, Noels and associates argue that variations in orientations which predict motivational intensity may predict achievement in a new language. Finally, the integrative orientation correlated most strongly and positively with IM and identified regulation. Noels and collaborators argue that similar patterns evident among anglophone as well as francophone learners suggest the likely cross-linguistic generality of their findings.

The intrinsic and extrinsic orientations of motivation, as conceptualized in self-determination theory, constitute a useful framework for studying motivation in educational contexts. It supports a dynamic view of motivation that can be affected by the teacher. Dörnyei and Skehan (2003: 623) argue
that if one accepts a dynamic view of motivation ‘the effective use of learning strategies may be precisely the sort of behaviour which causes motivational levels to be sustained within the learning situation. Their use may give encouragement to the learner, provide benchmarks for evaluation and progress, and enable motivating goal-setting to be accomplished.’

The major focus of this study is to examine the relationship of motivation to actual learning processes (metacognitive listening strategies in this case), rather than examining only the relationship of motivation to learning outcomes. As suggested by Dörnyei (2003), examining relationships between motivation and learning behaviours links L2 motivation research more closely with processes in second language acquisition. Although limited, there is already some empirical evidence that supports the link between motivation and learning strategies. Research by MacIntyre and Noels (1996) found a significant relationship among strategies and variables such as motivation, anxiety, integrativeness, and attitudes toward the learning situation. Relationships with metacognitive strategies were most robust. Schmidt, Boraie, and Kassabgy (1996) found that students with high levels of determination, instrumental motivation, and sociability reported using active cognitive and organizing strategies. In a later, large-scale study of heritage language learners, Schmidt and Watanabe (2001) found that, while motivation itself affected strategy use, the strongest predictor was motivational strength (intention to apply one’s best efforts to language learning), followed by value (reasons for learning another language) and cooperativeness. The strategies most affected by levels of motivation were cognitive and metacognitive strategies. Schmidt and Watanabe argue that if one believes in the value of learning another language, for either instrumental or intrinsic reasons, one can reasonably be expected to apply a variety of cognitive and metacognitive strategies to attaining that goal.

The important role of metacognition in learning has been well documented in cognitive psychology (e.g. Paris and Winograd 1990; Pintrich 1999; Zimmerman and Schunk 2001; Fernandez-Duque, Baird, and Posner 2003a, 2003b) and second language learning (e.g. Bolitho et al. 2003; Chamot et al. 1999; Mokhtari and Reichard 2002; Schoonen et al. 1998, 2002). Metacognitive strategies, that is skills such as planning, monitoring, evaluating, and problem solving are used by learners to manage, regulate, and guide their learning. There is some empirical evidence that an important difference between more-skilled and less-skilled L2 listeners lies in their use of metacognitive strategies (e.g. Bacon 1992; Goh 1998, 2000; O’Malley and Chamot 1990; Vandergrift 1998, 2003). Vandergrift (2003), for example, found that skilled listeners used twice as many metacognitive strategies as their less-skilled counterparts. More importantly, a qualitative analysis of the differences pointed to a systematic approach used by skilled listeners in ‘a continuous metacognitive cycle where new material interacts with listener inferences and is monitored against world knowledge and expectations generated by the conceptual framework and the developing mental
representation of the text in memory’ (Vandergrift 2003: 487). Skilled strategy use in L2 listening, then, is more than a question of numbers; it is a skillful ‘orchestration’ of a number of metacognitive and cognitive strategies used to control learning processes and achieve comprehension.

In light of both theoretical claims and evidence from previous studies, the present study examined the following questions: (1) What are the intercorrelations among the subtypes of intrinsic and extrinsic orientations to motivation in adolescent learners of French and what evidence, if any, is there for the existence of a self-determination continuum? (2) What is the relationship between listening proficiency and the orientations related to motivation (AM, EM, and IM)? and (3) What is the relationship between self-reported listening strategies and the orientations related to motivation?

METHOD

Participants

Fifty-seven core French learners from two suburban Canadian junior-high schools where French is a second language (FSL) participated in this study. These Grade 8 FSL students ranged in age from 13 to 14 years. Male students comprised 60 per cent of the sample. The students’ length of exposure to core French instruction ranged from three to six years; however, no participant had received French language instruction at a level more intensive than core French. Furthermore, many (over half) of the participants represented a wide range of cultural and linguistic backgrounds with first languages other than English or French. Many of these students still spoke a heritage language at home, in addition to English, and their length of residence in Canada varied from three to eight years. All participants were volunteers and they represented a range of ability in French.

Materials and procedure

The materials used in this study consisted of: (1) a listening strategy questionnaire; (2) a motivation questionnaire; and (3) a listening comprehension test. A description of the instruments along with Cronbach alphas follows.

(1) The Metacognitive Awareness Listening Questionnaire (MALQ) (see Table 3) consists of eighteen randomly ordered listening strategies designed to assess student awareness of the processes and strategies required for successful L2 listening comprehension. These statements are grounded in the research base on the strategies of successful L2 listeners (e.g. Bacon 1992; Goh 1998, 2000; O’Malley and Chamot 1990; Vandergrift 1998, 2003). Statement six was worded negatively so that students would pay careful attention when
completing this questionnaire. Participants rated the extent to which the statements in the questionnaire described their actual use of each strategy on a scale ranging from 1 to 5. A high score indicated strong agreement with the statement. Unanswered items were prorated (less than 0.5 per cent). The Cronbach alpha index of internal consistency was a very acceptable .86.

(2) A motivation questionnaire, the Language Learning Orientations Scale (see Appendix A), previously validated by Noels et al. (2000), consists of twenty randomly ordered statements designed to assess AM, the three types of EM, and the three types of IM. These statements were reworded so that the vocabulary reflected current language used by these adolescents; however, the spirit of the initial statement was preserved. Students rated the extent to which each statement corresponded with their own reasons for learning French, using a scale ranging from 1 to 7. A high score indicated strong agreement with the statement. A score for each subscale was calculated for each participant as the mean of the responses to the items composing each subscale, after prorating for unanswered items (less than 0.5 per cent). The Cronbach alpha index of internal consistency was a very acceptable .90.

(3) A listening comprehension test, developed from previously elaborated tests for core French students (Lapkin 1994; Wesche, Peters, and MacFarlane 1994), was validated with another class for the purpose of this study with an acceptable Cronbach alpha of .83. The test required students to listen to a number of authentic3 dialogues in French and to verify comprehension by completing 28 multiple choice questions. Sixteen of the stimulus questions were not written but presented orally. Since the test was not related to the curriculum followed by these students, this test measured student proficiency in L2 listening rather than achievement.

The students completed both questionnaires during regular class time, at their own pace, immediately following the class during which the listening comprehension test was administered.

RESULTS

Existence of a self-determination continuum

The first research question sought to examine the intercorrelations between the intrinsic and extrinsic orientations and the potential existence of a self-determination continuum in the responses of these adolescent learners of French. Although not the main focus of this study, this question examined the generalizability of the self-determination framework (Deci and Ryan 1985) to adolescent language learners. As in the case of the studies conducted by Noels and associates, a Pearson product–moment correlation matrix was calculated on the scores of each of the motivation subscales, in order to verify the existence of a self-determination continuum. The upper
portion of Table 1 presents the intercorrelations among each of the motivation subscales, along with their respective means, standard deviations, and Cronbach alphas. A visual examination of the means and standard deviations (through histograms) revealed a relatively normal distribution underlying the responses.

The Cronbach alpha index for four of the subscales appears to be acceptable (a range of .80 to .84); however, three subscales demonstrated poor reliability. Reliability defines the upper-bound of correlations, and this might be responsible for some of the unexpected low correlations between amotivation and most subscales, and those between introjected regulation and IM-accomplishment. The influence of reliability was assessed by adjusting correlation for attenuation, assuming a maximum correlation of alpha instead of the standard upper-bound of 1. The adjusted correlation matrix with associated effect size estimates are reported in the bottom half of Table 1. These adjusted correlations are more in line with the expected relationships. Furthermore, an examination of effect sizes (see upper diagonal in the bottom half of Table 1) indicated that attenuation may have been responsible for these lower intercorrelations.

In order to ascertain the existence of a self-determination continuum, the intercorrelations between the IM and EM orientations were examined.

Table 1: Motivation subscale means, standard deviations, intercorrelations, and effect sizes

<table>
<thead>
<tr>
<th>Subscales</th>
<th>M</th>
<th>SD</th>
<th>Subscales</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>2.73</td>
<td>1.54</td>
<td>1.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.21</td>
<td>0.07</td>
<td>0.10</td>
<td>0.04</td>
</tr>
<tr>
<td>External regulation</td>
<td>5.03</td>
<td>1.29</td>
<td>-0.09</td>
<td>1.00</td>
<td>0.27</td>
<td>0.48</td>
<td>0.49</td>
<td>0.35</td>
<td>0.32</td>
</tr>
<tr>
<td>Introjected regulation</td>
<td>3.59</td>
<td>1.51</td>
<td>0.02</td>
<td>0.52**</td>
<td>1.00</td>
<td>0.29</td>
<td>0.40</td>
<td>0.13</td>
<td>0.30</td>
</tr>
<tr>
<td>Identified regulation</td>
<td>5.13</td>
<td>1.48</td>
<td>-0.46**</td>
<td>0.69**</td>
<td>0.54**</td>
<td>1.00</td>
<td>0.67</td>
<td>0.52</td>
<td>0.29</td>
</tr>
<tr>
<td>IM-Knowledge</td>
<td>4.39</td>
<td>1.42</td>
<td>-0.26</td>
<td>0.70**</td>
<td>0.63**</td>
<td>0.82**</td>
<td>1.00</td>
<td>0.50</td>
<td>0.31</td>
</tr>
<tr>
<td>IM-Accomplishment</td>
<td>4.91</td>
<td>1.36</td>
<td>0.32*</td>
<td>0.59**</td>
<td>0.36**</td>
<td>0.72**</td>
<td>0.71**</td>
<td>1.00</td>
<td>0.24</td>
</tr>
<tr>
<td>IM-Stimulation</td>
<td>3.72</td>
<td>1.65</td>
<td>-0.19</td>
<td>0.57**</td>
<td>0.55**</td>
<td>0.54**</td>
<td>0.56**</td>
<td>0.49**</td>
<td>1.00</td>
</tr>
<tr>
<td>Reliability</td>
<td></td>
<td></td>
<td></td>
<td>0.57</td>
<td>0.67</td>
<td>0.68</td>
<td>0.82</td>
<td>0.80</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Intercorrelations with r adjusted for attenuation

<table>
<thead>
<tr>
<th>Subscales</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>1.00</td>
<td>0.02</td>
<td>0.00</td>
<td>0.45</td>
<td>0.15</td>
<td>0.21</td>
<td>0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External regulation</td>
<td>-0.15</td>
<td>1.00</td>
<td>0.59</td>
<td>0.87</td>
<td>0.92</td>
<td>0.62</td>
<td>0.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introjected regulation</td>
<td>0.03</td>
<td>0.77**</td>
<td>1.00</td>
<td>0.51</td>
<td>0.72</td>
<td>0.23</td>
<td>0.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identified regulation</td>
<td>-0.67**</td>
<td>0.93**</td>
<td>0.72**</td>
<td>1.00</td>
<td>1.00</td>
<td>0.77</td>
<td>0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM-Knowledge</td>
<td>-0.39</td>
<td>0.96**</td>
<td>0.85**</td>
<td>1.00**</td>
<td>1.00</td>
<td>0.76</td>
<td>0.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM-Accomplishment</td>
<td>-0.46*</td>
<td>0.79**</td>
<td>0.48**</td>
<td>0.87**</td>
<td>0.87**</td>
<td>1.00</td>
<td>0.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM-Stimulation</td>
<td>-0.27</td>
<td>0.76**</td>
<td>0.73**</td>
<td>0.65**</td>
<td>0.68**</td>
<td>0.58**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05; **p < .01
Reliability denotes Cronbach alpha.
Effect sizes given on upper diagonal.
Following Noels and colleagues (Noels et al. 2000), it was hypothesized that a simplex pattern would emerge; that is the strength of the correlations would increase the further one moved down the self-determination continuum from AM to EM to IM. Table 1 shows a pattern of significant intercorrelations between the subscales; however, no distinct simplex pattern, reflecting a continuum of increasing self-determination is apparent. While most of the subscales correlated negatively with AM (as anticipated), these correlations were weak and only two were significant. On the other hand, the intercorrelations among the EM and IM subscales were all positive and all significant. However, these intercorrelations did not gradually increase; they immediately jumped into ranges of .5 and higher. This pattern may suggest that, in the case of these adolescent learners, there are not yet fine distinctions in degree of motivation.

Table 2 shows the relationship among the major categories of motivation. Both EM and IM are negatively correlated with AM, although only the relationship between IM and AM was significant ($p < .05$). On the other hand, the correlation between IM and EM was strong and was also significant ($p < .01$). The strength of this relationship and proximity of the correlation coefficient to alpha suggest that both subscales may have tapped an identical construct in these adolescent learners of French.

Although a simplex pattern did not emerge in the intercorrelations among the subscales of motivation, a simplex pattern is apparent in the major categories of motivation (see Table 2). The relationships between AM and IM ($-0.30$) as well as AM and EM ($-0.21$) are both negative, whereas the relationship between IM and EM is positive and strong. This reflects a simplex pattern in that an inverse relationship exists between motivational orientations that are more self-determined (IM) and then EM (less self-determined than IM, therefore weaker than IM) and those that are least self-determined (AM). While the correlation between EM and AM is not significant, it is in the right direction and a larger sample size may have produced a significant relationship between these two orientations as well.

Table 2: Intercorrelations among listening proficiency, amotivation, intrinsic motivation, and extrinsic motivation

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Listening proficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Amotivation</td>
<td></td>
<td>$-0.34^*$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Extrinsic motivation</td>
<td>0.16</td>
<td>$-0.21$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Intrinsic motivation</td>
<td>0.12</td>
<td>$-0.30^*$</td>
<td>0.84**</td>
<td></td>
</tr>
</tbody>
</table>

*$p < .05$; **$p < .01$
Relationship between listening proficiency and the motivation orientations

The second research question sought to explore the relationship between listening test scores and the motivation orientations. An examination of the relationship between each separate subscale and the listening test did not point to any significant relationships. Therefore, each subscale was combined into its composite orientation, leaving the three orientations of motivation: AM, EM, and IM. Table 2 shows these relationships. As hypothesized, there is a significant negative relationship between test scores and AM. On the other hand, the correlations between proficiency and the other two orientations of motivation were low and not significant. This result was not anticipated since it was hypothesized that students who are motivated would be more successful. A post-hoc, statistically controlled analysis of these correlations was run to ascertain the effect of years of French study. Resulting correlations only marginally changed the absolute values of the correlations, thereby discounting years of French study as a significant variable. In sum, while it appears that there is a significant negative relationship between AM and listening proficiency for these adolescent learners of French, a high degree of motivation does not appear to be a reliable predictor of proficiency in L2 listening comprehension.

Relationship between listening strategies and the motivation orientations

Lastly, this study sought to explore the relationship between the motivation orientations and reported listening strategy use. Table 3 lists the eighteen listening strategies and the cognitive process that each represents, along with their correlations with the three orientations to motivation.

First, it was hypothesized that these listening strategies would correlate negatively with AM. While most strategies correlated negatively with AM, this relationship does not appear to be as strong as expected. Correlations for only seven of the strategies were significant. In the case of these adolescent learners of French, there is a positive relationship between AM and strategies such as giving up when having difficulty (6); and a negative relationship between AM and listening strategies such as: listening for overall meaning (7); paying attention and focusing when in difficulty (12); looking ahead even when in difficulty (13); confidence in ability to inference correctly (14); maintaining concentration (15); and, knowing where to focus attention (16). In other words, listeners who indicated a positive response to statements illustrating these strategies showed lower levels of AM on the motivation questionnaire and higher levels of AM for strategy six (giving up).

Second, in contrast with AM, it was hypothesized that the listening strategies would correlate positively with the extrinsic orientation to
<table>
<thead>
<tr>
<th>Listening strategy</th>
<th>Cognitive process</th>
<th>AM</th>
<th>EM</th>
<th>IM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Before starting to listen, I think of what I might know about the story (if I know the topic)</td>
<td>Metacognitive</td>
<td>−0.09</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td>2 I use sound effects and tone of the speaker’s voice to help me guess the meaning of words</td>
<td>Cognitive</td>
<td>−0.12</td>
<td>0.12</td>
<td>0.07</td>
</tr>
<tr>
<td>3 As I am listening, I predict what will happen</td>
<td>Metacognitive</td>
<td>−0.24</td>
<td>0.10</td>
<td>0.24</td>
</tr>
<tr>
<td>4 As I am listening, I use words that I recognize to help me guess the meaning of other words</td>
<td>Cognitive</td>
<td>−0.17</td>
<td>−0.07</td>
<td>0.09</td>
</tr>
<tr>
<td>5 When I do not understand, I listen for words that sound the same as English</td>
<td>Cognitive</td>
<td>0.02</td>
<td>−0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>6 When I have difficulty understanding, I give up and stop listening</td>
<td>Metacognitive</td>
<td>0.40**</td>
<td>0.04</td>
<td>−0.07</td>
</tr>
<tr>
<td>7 I listen for overall meaning</td>
<td>Metacognitive</td>
<td>−0.31*</td>
<td>0.16</td>
<td>0.32*</td>
</tr>
<tr>
<td>8 When I am having trouble understanding, I tell myself that I’ll manage and do fine</td>
<td>Metacognitive/Affective</td>
<td>−0.08</td>
<td>0.44**</td>
<td>0.28*</td>
</tr>
<tr>
<td>9 As I listen, I relate what I am hearing with what I understood earlier</td>
<td>Metacognitive</td>
<td>−0.05</td>
<td>−0.13</td>
<td>−0.21</td>
</tr>
<tr>
<td>10 I use the comprehension questions in front of me to help me predict what I cannot understand</td>
<td>Metacognitive</td>
<td>−0.13</td>
<td>0.26</td>
<td>0.32*</td>
</tr>
<tr>
<td>11 As I listen, I focus on the main words</td>
<td>Metacognitive</td>
<td>−0.07</td>
<td>0.06</td>
<td>0.18</td>
</tr>
<tr>
<td>12 When I have trouble understanding, I pay more attention and focus harder</td>
<td>Metacognitive</td>
<td>−0.41**</td>
<td>0.41**</td>
<td>0.49**</td>
</tr>
<tr>
<td>13 When I have trouble understanding, I keep on listening because I expect to understand more later</td>
<td>Metacognitive</td>
<td>−0.42**</td>
<td>0.30*</td>
<td>0.38**</td>
</tr>
<tr>
<td>14 I often correctly figure out the meaning of words I do not understand</td>
<td>Metacognitive</td>
<td>−0.28*</td>
<td>0.24</td>
<td>0.39**</td>
</tr>
<tr>
<td>15 When my mind wanders, I usually recover my concentration right away</td>
<td>Metacognitive</td>
<td>−0.32*</td>
<td>0.36**</td>
<td>0.50**</td>
</tr>
<tr>
<td>16 When I have the chance to listen a second or third time, I usually know where I need to pay more attention</td>
<td>Metacognitive</td>
<td>−0.27*</td>
<td>0.17</td>
<td>0.27*</td>
</tr>
<tr>
<td>17 I understand without translating in my head</td>
<td>Metacognitive</td>
<td>0.14</td>
<td>0.33*</td>
<td>0.38**</td>
</tr>
<tr>
<td>18 When I am listening, I have a good idea when I understand something and when I do not</td>
<td>Metacognitive</td>
<td>0.03</td>
<td>0.35**</td>
<td>0.41**</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01
motivation, although not as strongly as for IM. An examination of Table 3 shows that these correlations are not all positive, nor are they as strong as hypothesized. There are a number of weak correlations (both positive and negative) and some modest correlations. However, the relationship between only six of the listening strategies and EM was significant. These correlations allow us to be fairly confident about a positive relationship between these adolescent learners’ responses to statements related to EM and their reported listening strategies, such as: self-encouragement in the face of difficulty (8); paying attention and focusing when in difficulty (12); looking ahead even when in difficulty (13); maintaining concentration (15); avoiding translation (17); and evaluation of comprehension (18). The more extrinsically motivated the listener, the greater the tendency to report these listening strategies.

Third, as in the case of EM, it was hypothesized that there would be a positive relationship between these listening strategies and the intrinsic orientation to motivation. An examination of Table 3 reveals that, although the relationship is not as strong as anticipated, there are more significant relationships between these listening strategies and IM than in the case of EM. In fact, there appears to be a relatively robust relationship between these adolescent learners’ responses to statements related to IM and the following reported listening strategies: listening for overall meaning (7); self-encouragement in the face of difficulty (8); use of comprehension questions to aid comprehension (10); paying attention and focusing when in difficulty (12); looking ahead even when in difficulty (13); confidence in ability to inference correctly (14); maintaining concentration (15); knowing where to focus attention (16); avoiding translation (17); and evaluation of comprehension (18). The more intrinsically motivated the listener, the greater the tendency to report these listening strategies.

Finally, an examination of the pattern of correlations in Table 3 shows some evidence of a self-determination continuum. This is particularly true for those listening strategies which are more metacognitive in nature. For example, listening strategy 12 (paying more attention and focusing harder when having difficulty), an example of the metacognitive strategy of directed attention, correlated negatively with AM (−.41), correlated positively with EM (.41), and correlated even more strongly with IM (.49). All correlations were significant. There is one anomaly to this pattern of increased self-determination, however. The correlations for listening behaviour 9 (trying to fit in what is heard with what was understood earlier), an example of the important metacognitive strategy of monitoring, appears to correlate in the opposite direction (although it did not reach significance). While there is some evidence for a self-determination continuum for most strategies, only three strategies evidence a continuum in which all correlations are significant. For the most part, there is an increasingly strong relationship between student reported use of these listening strategies and more self-determined forms of motivation for language learning. In other words, there
is an inverse relationship between a motivational orientation that is more self-determined (intrinsic motivation) and an orientation to motivation that is less self-determined (AM) for most strategies. While there is strong evidence for only three of the strategies, the correlations for many of the strategies are in the right direction, and a larger sample size may have produced significant results. In sum, there is some evidence for a self-determination continuum; that is the more internalized the level of motivation for these adolescent learners of French, the more they report using metacognitive listening strategies.

DISCUSSION

This study examined the following questions: (1) the generalizability of the self-determination framework to adolescent language learners; (2) the relationship between listening proficiency and language learning motivation; and (3) the relationship between L2 listening strategies and language learning motivation. The student responses on the motivation questionnaire, as summarized in the means, standard deviations, and the overall level of intercorrelations, closely approximate the responses of the university anglophone learners of French examined by Noels and her colleagues (Noels et al. 2000). However, intercorrelations among the subscales do not indicate a simplex pattern. This may suggest, as mentioned earlier, that these students are not able to make the fine distinctions in motivational intensity that older, university-level students are able to make. Consequently, this self-determination framework may be generalizable to adolescent populations only so far as it distinguishes among the broad categories of IM, EM, and AM, and not so much for the finer distinctions among the six subscales of EM and IM.

Notwithstanding the above limitation, these results do provide some evidence for the applicability of this framework to the motivational tendencies of learners with different cultural backgrounds, a shortcoming in previous research noted by Noels and her collaborators (Noels et al. 2000). These student responses may reflect a willingness to work hard to achieve and to be successful in their new country, particularly the bilingual context in which they live. The possibility of cultural constraints has also been noted by Pintrich (1999), who recommends further research with both different populations in western cultures and cross-cultural populations. While this study may provide some insight into the motivation tendencies of a population representing different cultural backgrounds, it is also a limitation of the study, making the results less generalizable to other adolescent populations.

Theories about why particular populations might respond as they do highlights the importance of complementing quantitative methods of research with a qualitative component. Questionnaires, although quick
and easy to administer, are limited in their ability to probe the ‘why’ of participant responses. Spolsky (2000: 163) recommends the additional use of ‘richer’ methods of data collection to flesh out questionnaire data and address the ‘complexity, variability and “situatedness” of motivation’. In the case of the present study, random interviews with a select number of participants would have allowed for an exploration of attitudes and opinions. This may have helped in the interpretation of student responses on both questionnaires, thereby enhancing the reliability of the study. This idea is further supported by McGroarty (2001) who contends that existing research on L2 motivation has not paid enough attention to individual meanings, to learner interpretations of learning tasks or to different educational environments.

A negative relationship between AM and listening proficiency is not surprising. Since amotivated students see no relation between their actions and subsequent consequences, they are more likely to develop a passive attitude. A passive approach is not a characteristic associated with skilled listeners (Goh 1998; Vandergrift 2003), autonomous learners (Littlewood 1996) nor self-regulated learners (Pintrich 1999; Wenden 1998, 2002). An inverse relationship between amotivation and language proficiency is also consistent with Schmidt and Watanabe’s (2001) finding that students who studied language to fulfil a language requirement reported less motivation and less use of learning strategies. Students who score low on measures of motivation, because of their lack of self-confidence and self-efficacy, exhibit a dislike for challenging activities, an observation that is congruent with the construct of amotivation.

On the other hand, the absence of a relationship between listening proficiency and the EM and IM orientations merits further exploration. The tasks on the listening comprehension test (fast, authentic-type texts) differed from the regular classroom listening practice which was teacher-centred, slow-paced, and contextualized, with lots of opportunities for students to verify comprehension. This may also explain the unexpected inverse relationship between listening strategy 9 (monitoring) and the motivation orientations. Since students seldom listened to extended discourse in class, they rarely had to practise reconciling new information with what they heard earlier in a text. It is possible that these students had the desire to comprehend and perform well in language class (reflected in their responses to the motivation questionnaire). However, they may not have been capable of performing well on the listening test because of either a lack of adequate vocabulary due to limited exposure to French (some students had been in Canada for as little as three years) or an incongruence between the listening tasks practised in class and the listening tasks on the test. Actual class marks (not available to the researcher) may have produced a significant positive relationship between overall student achievement and the EM and IM orientations. On the other hand, previous research using the self-determination framework has not found a robust relationship between
student final grades and the EM and IM orientations. Of the two studies by Noels and her associates that examined the relationship, among others, between the motivational orientations and achievement (Noels, Clément, and Pelletier 1999, 2001), the correlation between IM and the final course grade was low and significant (.29) only in the 2001 study. They found no correlation between EM and final course grades.

The patterns of correlations between the motivational orientations and reported listening strategies are somewhat consistent with the predictions of self-determination theory. Although correlations do not indicate causation, these relationships provide some evidence for the theoretical prediction that increased use of metacognitive strategies (integral to self-regulated learning) are linked to more self-determined forms of motivation. This is evident in the many significant jumps in correlations from AM to EM and some modest, but increased strength of correlations from EM to IM for most of the listening strategies. As mentioned earlier, a larger sample size may have produced more significant correlations. Pintrich (1999) points out that since self-regulated learning is neither easy nor automatic, students need to be motivated in order to invest the time and energy required for using these strategies. He found that, in order to facilitate and sustain self-regulatory learning (i.e. use metacognitive strategies), the middle-school students in his study maintained motivation by drawing on self efficacy beliefs (judgement about their ability to do a task), task value beliefs (interest in and value of the language class), and a mastery goal orientation (focus on self-improvement rather than an extrinsic goal), all characteristic of IM. In other words, like many students in the present study, the more self-determined their motivation, the more students were willing to invest the time and effort required for self-regulatory learning.

Given the theoretical motivation for hypothesizing a strong relationship among motivation, metacognitive strategy use, and proficiency, the perplexing question as to why the relatively high degree of motivation reported by these students did not result in higher listening proficiency merits some reflection. As mentioned earlier, many of the participants in this study consisted of immigrant students who had only spent between three to six years in Canada. For most of them, French was either the third or fourth language that they were learning. This fact may explain their high level of IM, presumably prompted by their drive to learn the new languages used in their bilingual context. Furthermore, in spite of their desire to perform well, these students may not have had the necessary vocabulary or enough experience in listening to fast, authentic-type texts in order to understand the details necessary for success on such a test. An examination of the mean (11.63 out of total possible score of 28) and standard deviation (6.14) showed that the test was quite difficult for these students. An achievement test, tied more closely to course outcomes and course listening activities, may have pointed to a significant relationship.
Finally, while this study has found some support for the use of a self-determination framework as a valid tool for assessing learner motivation and potential relationships with metacognition, self-regulation, and autonomy, the results also appear to challenge one of the theoretical assumptions of self-determination theory; that is that autonomy precedes motivation. Deci and Ryan (1985) would contend that IM is promoted in learning environments where the locus of control is clearly with the learner; learning conditions that promote autonomy increase motivation which, in turn, impacts effective learning. The learning environments experienced by the participants of the present study, however, were not learner-centred but formal, teacher-centred classrooms. Therefore, one cannot argue that the level of IM stemmed from an autonomy-supportive learning environment. Given the results of this study, IM can flourish in different learning environments and could be attributed to other learner factors such as those motivating the multilinguistic participant group of this study. In fact, this result might be attributed to a deference to authority found among some cultural groups who may not prefer autonomy-supportive environments early in the learning process. Spratt, Humphreys, and Chan (2002) explore these same questions, concluding that the relationship between motivation and autonomy could also be dynamic and operate in different directions.

This study is limited both by the nature and language level of the participants, the relatively small sample size and the limited language skills (only listening) used as a criterion for proficiency. A study like this should be replicated with different groups of learners in different cultural contexts, at different age levels, and at different language levels. That being said, the multicultural and multilingual makeup of the participant group in the present study is now characteristic of many North-American classrooms, particularly core French classes in Canada. Future studies should also examine the relationship of motivation to the other skills: reading, speaking, and writing. Finally, as argued earlier in this article and further reinforced by Dörnyei (2001b), an interpretive component using methodologies such as in-depth interviews or case studies should be used in addition to questionnaires in order to examine the ‘internal dynamics’ of student motivation; that is the ‘why’ of students’ responses on questionnaires.

In conclusion, this article has explored how the orientations proposed by self-determination theory relate to metacognitive strategy use and proficiency in L2 learning, with a particular reference to listening comprehension. Although relationships were not as strong as expected, this study contributes to our understanding of issues related to self-regulation in language learning, given the importance of both learning strategies and motivation to learner self-regulation. Consequently, this study has made some small steps forward in relating motivation research to actual L2 learning processes.

Final version received June 2004
APPENDIX A

Language learning orientations scale

Amotivation

Honestly, I don’t know; I have the impression that I am wasting my time in studying French.
I don’t know why I study French.

External regulation

In order to get a good job later on.
In order to earn more money later on.
For the benefits that I might gain by being accepted in the French-speaking community.

Introjected regulation

To prove to myself that I am a good citizen because I speak French.
Because I would feel guilty if I didn’t know French.
Because I would feel ashamed if I couldn’t speak to my French-speaking friends in French.

Identified regulation

Because I think it is important for my personal development.
Because I choose to be the kind of person who can speak more than one language.
Because I choose to be the kind of person who can speak French.

Intrinsic motivation: Knowledge

For the satisfied feeling I get in finding out new things.
For the pleasure that I experience in knowing more about French literature.
Because I enjoy the feeling of learning about French-speaking people and their way of life.

Intrinsic motivation: Accomplishment

For the enjoyment I experience when I understand a difficult idea in French.
For the satisfaction I feel when I am doing difficult exercises in French.
For the good feeling I get when I do better than I thought in French class.

Intrinsic motivation: Stimulation

For the ‘high’ that I get while speaking French.
For the pleasure I get from hearing French spoken by French-speaking people.
For the ‘high’ I feel when I hear someone speaking a foreign language.

(Adapted from Noels et al. 2000)

ACKNOWLEDGEMENTS

I would like to thank the following people for their contributions to this study: Marja Roos and Karine Laporte for their help in data collection, Catherine Mareschal for reviewing the literature on motivation, Glen Thompson and Susan Baker for assistance and advice on statistics, and the three AL anonymous reviewers for their comments and suggestions for improving this manuscript.

NOTES

1 The link between learning strategies and motivation has already been recognized in mainstream motivational psychology as evidenced in the Motivated Strategies for Learning Questionnaire, a self-report instrument designed to measure student motivation and self-regulated learning in classroom contexts (Pintrich et al. 1993).

2 Core French programmes, in contrast to French immersion, provide instruction in French as a subject for about 200 minutes per week.

3 Authentic, in the context of this study, refers to oral texts that ‘reflect a naturalness of form, and an appropriateness of cultural and situational context that would be found in the language as used by native speakers’ (Rogers and Medley 1988: 468).

4 Reliability was also assessed by averaging the scores on each subscale and performing a Principle Component analysis to generate a more reliable summary score. Each subscale was analysed individually, so rotation was unnecessary. The more reliable estimates of theoretical true scores generated by this analysis yielded stronger intercorrelations, in particular more robust negative correlations (all significant) for AM. However, given that the pattern of these intercorrelations was similar to the originally calculated intercorrelations, a decision was made to retain the original intercorrelations for analysis.

5 The original hypothesized simplex pattern was not observed in the present analysis. Reliability may have attenuated the strength of the relationship between some of the variables; however, this cannot account for the pattern of the results reported here. Subscales for external regulation and introjected regulation were expected to have the weakest relationship with the other subscales, but they also had the lowest reliabilities (with the exception of AM). In this case, attenuation due to reliability could only have produced results loosely conforming to the simplex pattern. Therefore, a reliability-based explanation alone cannot explain the failure to find a simplex pattern.

6 These processes are mostly metacognitive in nature; however, strategies are rarely used in isolation but used in combination with other metacognitive, cognitive, or socio-affective strategies.

7 I am grateful to one of the reviewers for pointing out this possibility.
REFERENCES


Lapkin, S. 1994. Grade 8 Core French Test Package. Toronto, ON: Modern Language Center, OISE.


