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# Self-Determination, Motivation, and the Learning of Chinese as a Heritage Language

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**Abstract:** The motivation of 145 learners of Chinese was examined in light of self-determination theory through a questionnaire survey. The results showed that the more learners felt they were learning Chinese because it was personally meaningful and fun, the more they engaged in the learning process. This orientation was promoted to the extent that learners felt a connection with the Chinese community and, particularly for heritage learners, a sense of personal control over the learning process. Relative to non-heritage learners, heritage learners more strongly indicated that they were learning Chinese because it was an integral aspect of their self-concept, but also because of feelings of obligation. There were few differences between heritage learners who spoke Chinese as a mother tongue and those who spoke English, which suggests that from the standpoint of social psychology, regardless of Chinese proficiency, subgroups of heritage language learners may be more alike than different.

**Keywords:** heritage language learning, self-determination theory, second language acquisition (SLA), social identity, ethnic identity, Chinese, motivation

**Résumé :** La motivation de 145 apprenantes et apprenants du chinois a été examinée à la lumière de la théorie de l'autodétermination et au moyen d'un questionnaire d'enquête. Les résultats ont démontré que plus les apprenants avaient le sentiment d'apprendre le chinois parce que c'était important pour eux, personnellement, et parce qu'il y prenaient plaisir, plus ils participaient au processus d'apprentissage. Cette orientation était soutenue au point où les apprenants se sentaient liés à la communauté chinoise et, en particulier pour les personnes dont c'était la langue d'origine, un sentiment de maîtriser le processus d'apprentissage. Par opposition aux apprenants dont ce n'était pas la langue d'origine, ceux dont ce l'était ont indiqué plus nettement qu'ils apprenaient le chinois parce que celui-ci faisait partie intégrante de leur conception d'eux-mêmes, mais aussi à cause d'un sentiment d'obligation. Il y avait peu de différences entre les apprenants dont c'était la langue maternelle et ceux qui parlaient l'anglais, ce qui donne à penser que, du point de vue de la

psychologie sociale, et peu importe la facilité avec laquelle ils s'expriment, des sous-groupes d'apprenants de langues d'origine se ressemblent davantage qu'ils ne diffèrent les uns des autres.

**Mots clés :** apprentissage des langues d'origine, théorie de l'autodétermination, acquisition d'une langue seconde (ALS), identité sociale, identité ethnique, langue chinoise, motivation

Heritage language (HL) learning is a significant social, political, and economic issue in North America. HL learning has emerged as a separate area within second language acquisition research on the grounds that HL learners differ from foreign language (FL) learners both linguistically and social-psychologically. Still, not all HL learners are the same – they may have different knowledge of the language, different motivations and attitudes toward it, or different goals they wish to attain through learning the language. Considerable work to date has examined the linguistic profile of HL learners and contrasted it with that of non-HL learners of the same language, but less work has compared these learners in terms of their motivational and affective profiles (for recent overviews of HL research see Brinton, Kagan, & Bauckus, 2008; He & Xiao, 2008). With this in mind, the present study investigates the social-psychological differences and similarities between HL and non-HL learners in university-level Chinese classes, as well as differences and similarities between subgroups of HL learners.

### Defining the heritage language learner

In the past few decades, research on HL learning has made it apparent that HL learners differ substantially from traditional FL learners (Kondo-Brown, 2005; Duff, 2008). Their background knowledge, language skills, familiarity with the culture, motivation, and other factors make them a special class of language learners (Campbell & Rosenthal, 2000; Lee, 2005). This distinction between non-HL and HL learners, however, masks the fact that within the HL category, learners can be differentiated in many ways. The diversity of HL learners' experiences and learning contexts perhaps accounts for the diversity of definitions that have been posited. Valdés defines the HL student as the 'student who is raised in a home where a non-English language is spoken, who speaks or at least understands the language' (2001, p. 2).

Other definitions extend to the ancestral language of an individual or group, regardless of whether that language is still used in the home (Fishman, 2001; Noels, 2005). Van Deusen-Scholl (2003) differentiates between HL learners and learners with a heritage motivation, thus addressing the two definitions mentioned above (for a review of HL definitions, see Van Deusen-Scholl, 2003).

In her study of Japanese HL learning, Kondo-Brown (2005) subdivided participants into four groups based on the degree of 'ancestral relatedness' between the learner and his or her Japanese-speaking relatives, as well as the learner's country of birth. The *descent group* consisted of HL learners born in the United States whose parents and grandparents did not speak Japanese; the *grandparent group* was composed of HL learners born in the United States whose parents did not speak Japanese but at least one of whose grandparents did; the *parent group* consisted of HL learners born in the United States or Japan with at least one parent who was a native speaker of Japanese; and the *FL group* consisted of learners of Japanese who were born in the United States, were not part of any of the groups described above, had no relatives who spoke Japanese, and did not identify their background as Japanese. The results showed that the descent and grandparent groups did not differ in proficiency from the FL group, but attention was drawn to the possibility that these groups might still differ affectively (Kondo-Brown). These groups showed differences from the parent group in the domains of grammatical knowledge, listening and reading skills, self-assessed use/choice of Japanese, and self-ratings of various tasks. One purpose of the present study is to look more closely at some affective factors that may differentiate groups of learners.

### Motivation for learning heritage languages

Research shows that a variety of affective factors are related to successful second language (L2) learning and use, and one of these factors is motivation (for a review see Dörnyei, 2005). Gardner reminds us of the complexity of defining motivation, stating that rather than giving a definition, one can enumerate attributes of a motivated individual: '[is] goal directed, expends effort, is persistent, is attentive, has desires (wants), exhibits positive affect, is aroused, has expectancies, demonstrates self-confidence (self-efficacy), and has reasons (motives)' (2006, p. 2). In their recent meta-analysis of several decades of research, Masgoret and Gardner (2003) conclude that the most important aspect

of motivation for the prediction of proficiency is the sustained effort expended by the learner, which they term 'motivational intensity.'

Motivation for HL learning has been studied in various ways. Some case studies describe learners' motivation as driven by the desire to gain linguistic skills, to enhance career opportunities, and to fulfil academic requirements (Campbell & Rosenthal, 2000; Webb & Miller, 2000). Theoretically driven approaches have generally investigated two orientations proposed by Gardner (1985): the *integrative orientation*, that is, the learner's interest, positive attitudes, and desire for social interactions with the language community; and the *instrumental orientation*, that is, the learner's goal of learning a language to achieve certain pragmatic benefits (e.g., as a job requirement). In the context of HL learning, both types of orientations have been suggested to predict motivation and language proficiency (for a review, see G. Li & Lu, 2008).

From another theoretical perspective, Noels (2001; Noels, Pelletier, Clément, & Vallerand, 2000) draws from the tenets of *self-determination theory* (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) to understand how the regulation of language learning becomes internalized into the learner's self-concept and how self-determined action brings about positive outcomes. As defined by Deci and Ryan, 'self determination is the quality of human functioning that involves the experience of choice ... [and] an internal perceived locus of control' (p. 38), and it is characteristic of intrinsic motivation and of some forms of extrinsic motivation. Deci and Ryan define *intrinsic motivation* as the motivation that leads a person to pursue an 'activity in the absence of a reward contingency or control' (p. 34), based solely on interest and pleasure in that particular activity. In the SLA setting, this means that learners perceive the learning process as voluntary and approach it with imagination and creativity, curiosity and enthusiasm.

A second category of motivation, *extrinsic motivation*, reflects a range of subtypes that vary in the degree to which an activity is controlled by the learner or by persons and circumstances apart from the learner. *External regulation* is the subtype of extrinsic motivation characterized by performing an activity in order to achieve a reward or avoid a punishment. *Introjected regulation* can be recognized when one carries out an activity in order to temper internal pressures, particularly a sense of guilt, or for ego enhancement. *Identified regulation* refers to doing an activity for personally relevant reasons, such that the regulation is accepted as one's own (Deci & Ryan, 1985). The last form of extrinsic motivation is *integrated regulation*, whereby one feels that one has already integrated the process of learning into one's being, such that the activity is now consistent with other life goals.

SDT posits a mechanism through which intrinsic and more self-determined extrinsic orientations can be developed and sustained. When the circumstances and people in the learner's social world support the learner's sense of competence, autonomy, and relatedness, a more self-determined orientation (e.g., identified, integrated, or intrinsic) is likely to be fostered (Deci & Ryan, 1985). These three sentiments are described as basic needs that must be satisfied for optimal psychological functioning. *Autonomy* is the learner's feeling that she is pursuing this activity of her own will, in accordance with personal desires, without being pressured by external factors; *competence* refers to a learner's perception of ability in performing the activity; and *relatedness* refers to a sense of warmth, security, and connection between the learner and other people in that social context. According to Deci and Ryan, although autonomy is the key to more internalized regulation and stronger feelings of self-determination, competence and relatedness are also necessary.

Although past studies have focused primarily on L2 and FL learning (for a review see Noels, 2009a), some research underscores the utility of the SDT perspective for understanding HL learning. Noels (2005) investigated HL and non-HL learners of German and found that the groups generally did not differ in their endorsement of the orientations, except for identified regulation and, marginally, integrative orientation, which suggests that language learning was particularly important to the HL learners' self-concept and that these students desired a closer relationship with members of the German-speaking community. The results also showed that for both groups, self-determined orientations were an important predictor of both motivational intensity and engagement in the German community. A limitation of Noels' (2005) study is that these German learners were descended from a long-established ethnolinguistic group that is well integrated into Canadian society, so that their degree of ancestral relatedness could be described as distant; indeed, few of the participants had learned German as a first language (L1) or used it often. In the present study, we investigate how intrinsic and extrinsic orientations relate to motivated engagement in learning the language of a group that has become well established in Canada over many decades but continues to grow as many newcomers arrive in Canada.

### Chinese heritage language learning

The present study focuses on learners of Chinese in Canada. Large-scale Chinese migration to Canada began in the nineteenth

century and has continued to the present day (G. Li, 2006). According to census data, Chinese (incorporating all varieties of Chinese) was the seventh most spoken unofficial language in Canada in 1971, became the second most spoken by 1991, and was the most spoken allophone language by 2001 (Statistics Canada, 2006; for a review see Duff, 2008). Chinese-speaking immigrants to Canada originate from diverse regions in mainland China, Taiwan, and Hong Kong (M. Li, 2005), as well as from other Asian countries, and speak primarily Cantonese or Mandarin. Like their counterparts elsewhere in North America, Chinese-Canadian communities in the province in which the study was conducted have well-established institutional structures to support their cultural and linguistic vitality. With respect to education, extra-curricular language schools (heritage schools) are widespread, as are publicly funded English–Chinese bilingual school programs (Duff, 2008).

The vitality of an HL group in educational and other institutions has implications for the continuity of the language to subsequent generations. G. Li (2006) maintains that if the minority group is well represented in society, members tend to view their HL as more useful, prestigious, and vital. Her findings emphasize the importance of the school system for Chinese-Canadian students' perceptions of their L1: the more schools implement an English-only policy, the less regard the students have for their mother tongue. Moreover, parents' perceptions of and attitudes toward their status as a minority group and toward their HL predict the language choices of their children. Li concludes that in order to achieve bilingual proficiency, the environmental conditions must be favourable: home, school, and societal factors must promote and encourage students' feelings of pride and belonging to the culture. Similar results have been reported by Chow (2001; see also Xiao, 1998), who found that even though ethnic language schools were not necessarily successful at teaching writing and reading skills, these programs raised their students' awareness of Chinese culture. Positive experiences in the Chinese language school environment were found to be positively related to ethnic pride, exposure to Chinese media, practice of Chinese customs, and self-assessed proficiency. Thus, both these studies stress the importance of a supportive community for HL maintenance.

The feelings of pride, belonging, and connection to the language community described by G. Li (2006) and Chow (2001) resonate with the notion of relatedness in SDT, and so we might expect that greater relatedness is associated with more internalized motivation to learn the language. But SDT also claims that other psychological needs

must be met, including feelings of competence in one's abilities and feelings of autonomy. Indeed, from an SDT perspective, autonomy is the key to sustaining intrinsic motivation and highly self-determined forms of extrinsic motivation. An important question, then, bears on the relative contributions of these needs for effortful HL learning.

### Objectives

The first objective of the present study is to explore the similarities and differences in the motivational profiles of subgroups of language learners, including those who learned the HL at home and those who did not. We will also compare these groups with a non-HL group.

The second objective is to extend previous research on HL learning from an SDT perspective to a group of HL learners who have relatively ready access to their language community. We are particularly interested to discover whether intrinsic and self-determined extrinsic orientations predict motivated engagement in the learning process and engagement in the language community.

The final objective is to consider the relations between orientations and autonomy, competence, and relatedness. More specifically, we will consider the relative contribution of each of these sentiments to the promotion of a self-determined orientation.

### Method

#### *Participants and procedure*

The 145 participants were university-level students enrolled in credit-bearing Chinese courses. After they were informed about the confidential and voluntary nature of the study, participants individually completed a questionnaire outside of class and returned it during class time the following week.

Each student indicated whether his or her mother, father, both parents, or neither parent were native Chinese speakers. If at least one parent was a native speaker of Chinese, the participant was classified as an HL learner. This group was further divided into those participants who spoke a variety of Chinese (or Chinese and English) as a native language and those who spoke only English as a native language. Thus the total sample of participants was divided into three groups: participants who declared Chinese to be their L1



(Chinese-Chinese group), participants at least one of whose parents was a Chinese native speaker but whose L1 was English (English-Chinese group), and participants with no Chinese ancestry (non-Chinese group).<sup>1</sup>

#### Chinese-Chinese group

The Chinese-Chinese group consisted of 51 women and 20 men (one person did not indicate his or her sex). Their ages ranged from 18 to 33 years ( $M = 20.49$ ,  $SD = 2.77$ ). All identified a variety of Chinese as their mother tongue, including Cantonese, Mandarin, Hakka, Fujian, or Taiwanese. Most (93%) indicated that both parents were native speakers of Chinese, and the remainder indicated that one parent was a Chinese native speaker. When asked to identify their ethnic background, they claimed a Chinese background (e.g., Chinese, Cantonese, Fukinese, Hong Kong) or a hyphenated background (e.g., Chinese-Canadian). Almost 90% of participants in this sample were Canadian citizens or permanent residents. A little over 43% of the group originated from Hong Kong; 10% were born in Malaysia, Taiwan, mainland China, Cambodia, or Vietnam; and the remainder were born in Canada. For those born outside Canada, the mean length of residence in Canada was 9.91 years ( $SD = 3.08$ ). Slightly more than half of participants (54.2%) were in a beginner-level course, 33.3% were enrolled at the intermediate level, and the rest were enrolled as advanced learners.

#### English-Chinese group

The English-Chinese group consisted of 23 women and 13 men who spoke English as a native language. Their ages ranged from 18 to 24 ( $M = 19.97$ ,  $SD = 1.57$ ). All 36 participants had at least one parent who was a native Chinese speaker (78% reported that both parents spoke Chinese). With respect to cultural background, 68% indicated a Chinese background (e.g., Chinese, Cantonese, Taiwanese, Mandarin), while the rest came from mixed backgrounds (e.g., Chinese-Vietnamese, Chinese-Malaysian, Chinese-English). Almost all participants were Canadian citizens or permanent residents of Canada (one did not answer the question). Seventy-two percent were enrolled in a beginner-level course, 13.8% at the intermediate level, and 13.8% at the advanced level.

### Non-Chinese group

The Non-Chinese group was made up of 17 women and 16 men who spoke English as a native language and did not have a Chinese-speaking parent (one participant did not indicate his or her sex). Their ages ranged from 18 to 54 years ( $M = 22.26$ ,  $SD = 6.06$ ). All of them were Canadian citizens who identified as Canadian or of European descent. They had begun learning Chinese between the ages of 15 and 47 ( $M = 20.59$ ,  $SD = 5.89$ ) and had been formally enrolled in Chinese classes for between one and four years ( $M = 1.55$ ,  $SD = 0.92$ ). The majority (82%) of this group was enrolled in beginner-level courses, and the rest (18%) in intermediate courses.

### *Materials*

The questionnaire consisted of assessment instruments adapted from existing measures to fit the Chinese language context. Participants indicated the extent to which each item corresponded with their opinion on a scale from 1 ('does not correspond at all') to 7 ('corresponds exactly'). Except for single-item indices, mean scores were computed for each sub-scale, such that a high score indicated strong correspondence between the items and the participant's opinion. Each instrument is presented below, with the Cronbach's alpha index of internal consistency in parentheses ( $\alpha$ ).

### Motivational orientations

A set of 33 randomly ordered statements adapted from Noels et al. (2000) assessed various responses to the question 'Why are you learning Chinese?' They represented intrinsic motivation (11 items; e.g., 'I love doing it; it's fun';  $\alpha = 0.92$ ), integrated regulation (4 items; e.g., 'It is an important part of how I define myself';  $\alpha = 0.92$ ), identified regulation (6 items; e.g., 'Knowing Chinese helps me achieve goals that are important to me';  $\alpha = 0.83$ ), introjected regulation (5 items; e.g., 'I would feel guilty if I didn't know Chinese';  $\alpha = 0.89$ ), external regulation (7 items; e.g., 'To gain the benefits (e.g., job, money, course credits) which taking Chinese will provide';  $\alpha = 0.80$ ), and amotivation (4 items; e.g., 'I don't know; I cannot come to understand why I am studying Chinese;  $\alpha = 0.84$ ).<sup>2</sup>

### Psychological needs: Self-perceptions of autonomy, competence and relatedness

This 19-item instrument assessed self-perceptions of autonomy, competence, and relatedness (adapted from Noels, Clément, & Pelletier, 1999). Four items assessed feelings of autonomy (e.g., 'I study Chinese out of personal choice';  $\alpha = 0.62$ ), and four items evaluated feelings of competence (e.g., 'I have developed very good abilities as a Chinese student';  $\alpha = 0.77$ ). Because relatedness has been less studied, 11 items were developed to reflect different aspects of the concept, such as relatedness with classmates and with the Chinese culture in general (e.g., 'I feel a certain connection with Chinese and the Chinese-speaking world'; 'In my relationships with other people in my Chinese class, I feel supported';  $\alpha = 0.94$ ).

### Engagement in learning

Ten items adapted from Gardner, Tremblay, and Masgoret's (1997) motivational intensity index assessed effort and engagement in learning the language (e.g., 'I make a point [of] trying to understand all of the Chinese I see and hear';  $\alpha = 0.80$ ). Five items adapted from Noels et al. (1999) assessed participants' intention to continue learning Chinese after completing the language course (e.g., 'I intend to study Chinese again in the future';  $\alpha = 0.88$ ).

### Community engagement

Three single-item questions and one four-item scale assessed engagement in the Chinese community. One item assessed the frequency of contact with members of the Chinese community ('During the past year, how much contact did you have with Chinese-speaking people outside of school?'), from 1 ('none') to 7 ('very frequent'), and one item assessed the quality of that contact, from 1 ('very unpleasant') to 7 ('very pleasant'). Participants also indicated how often they used Chinese outside of school with a single item (1 = 'never,' 7 = 'always').

Adapted from the identity sub-scale of Luhtanen and Crocker's (1992) collective self-esteem instrument, four questions assessed the degree to which the participants felt that their ethnicity was central to their overall sense of self (e.g., 'Overall, my ethnic identity has very little to do with how I feel about myself' – reverse-coded;  $\alpha = 0.82$ ). Because this study focused on how orientations relate to

Chinese identity, only participants with Chinese ancestry completed this instrument.

### Reasons for learning Chinese (open-ended)

An open-ended question asked participants to describe their motivation for learning Chinese ('In your own words, why are you learning Chinese?'). Initially it was planned that the responses would be coded within the SDT subtypes (see Noels, Saumure, Adrian-Taylor, Johns, & Chu, 2009). However, because the answers varied in length and detail, and several answers were too brief to be finely coded (one sentence or less, e.g., 'to get a job'), a simpler coding scheme was used, including 'intrinsic,' 'extrinsic,' and 'amotivation' categories. Respondents could report multiple reasons for learning Chinese; each of these reasons was coded.

## Results

To explore possible differences among the groups of language learners on the motivation and engagement variables, analyses of variance (ANOVAs) were computed. Correlation and regression analyses evaluated the relations between the orientations, on the one hand, and the psychological needs and engagement variables, on the other. The findings are discussed below.<sup>3</sup>

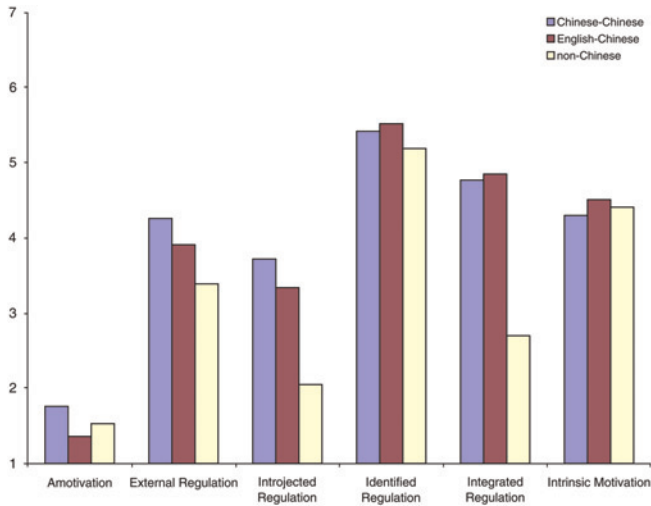
### *Means analyses*

#### Motivational orientations

To determine the differences between the three groups in their orientations for learning Chinese, a  $3 \times 6$  mixed-model ANOVA was computed with the three learner groups (Group: Chinese-Chinese, English-Chinese, non-Chinese) as a between-subject factor and the six orientations as within-subject factors (Orientation: amotivation vs. external vs. introjected vs. identified vs. integrated vs. intrinsic). The results yielded a significant Group main effect ( $F(2,142) = 12.07, p < 0.001$ ) and a significant Orientation main effect ( $F(5,710) = 194.35, p < 0.001$ ). The interaction effect was also significant ( $F(10,710) = 9.58, p < 0.001$ ; see Figure 1).

Post-hoc Tukey tests (using  $p < 0.01$ ) showed the following pattern of endorsements within each group. The Chinese-Chinese group endorsed identified regulation higher than any other regulation,

FIGURE 1  
Means for orientations as a function of group.



followed by intrinsic, integrated, and external regulation, which were equally endorsed. Introjected regulation was less endorsed than these orientations (although the difference from intrinsic motivation was not significant). For the English-Chinese group, identified and integrated regulation were the most strongly endorsed orientations; external regulation was less strongly endorsed than these two orientations, and intrinsic motivation fell midway between integrated and external regulation and was not significantly different from either. Introjected regulation was less strongly endorsed than these orientations. The orientation most endorsed by the non-Chinese group was identified regulation, external regulation was less endorsed, and intrinsic motivation fell midway between these two and was not significantly different from either. Integrated and introjected regulations were less endorsed than the other orientations. Across all groups, amotivation was the least endorsed orientation.

All three groups endorsed amotivation, intrinsic motivation, and identified regulation to the same extent. Endorsement of both introjected and integrated regulation was significantly lower for the non-Chinese group than for the other two groups but alike for the Chinese-Chinese group and the English-Chinese group. External regulation was significantly lower for the non-Chinese group than for the Chinese-Chinese group, and the English-Chinese group fell

midway between these two groups and did not differ significantly from either.

### Engagement in learning

Two one-way ANOVAs compared the three groups on their level of motivational intensity and their intention to continue studying Chinese in the future; no significant differences between groups were apparent for either variable ( $F(2,142) = 2.58, p = 0.08$ , and  $F(2, 142) = 2.17, p = 0.13$ , respectively; see Table 1).

### Community engagement

Significant differences between the non-Chinese group and the two HL groups were observed with respect to frequency of contact with Chinese speakers and frequency of Chinese use ( $F(2,141) = 5.14, p = 0.005$ , and  $F(2,141) = 5.30, p = 0.006$ , respectively; see Table 1). Post-hoc Tukey tests ( $p < 0.01$ ) showed that the English-Chinese and the Chinese-Chinese groups indicated equally frequent contact and that both groups had significantly more frequent contact than the non-Chinese group. Chinese-Chinese participants indicated that they

TABLE 1  
Means and standard deviations for psychological needs and engagement variables as a function of learner group

Variables	Chinese-Chinese		English-Chinese		Non-Chinese	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Psychological needs						
Autonomy	5.42	1.11	5.90	1.00	6.08	1.05
Competence	5.10	1.03	5.12	1.04	4.83	0.90
Relatedness	5.03	0.95	5.10	0.97	4.24	0.97
Learning engagement						
Motivational intensity	4.83	0.79	5.13	0.98	5.18	0.85
Intention to continue	5.72	1.06	6.12	1.02	6.03	1.14
Community engagement						
Frequency	5.28	1.50	5.17	1.63	4.24	1.82
Quality	4.96	1.34	5.11	1.39	6.60	1.20
Language use	4.37	1.72	4.16	1.66	3.26	1.46
Chinese identity	4.95	1.09	4.88	1.25	–	–

used Chinese more often than the non-Chinese group did, and the English-Chinese group fell between the two.

The three groups rated the quality of that contact virtually the same ( $F(2,140) = 2.67, p = 0.07$ ). An independent samples *t*-test comparing the two HL groups' levels of Chinese identity did not yield a significant difference ( $t(109) = 0.32, p = 0.27$ ).

### Psychological needs

Three one-way ANOVAs were conducted in order to test the difference in means between the three groups in terms of autonomy, relatedness, and competence (see Table 1). The analyses yielded significant main effects for autonomy ( $F(2,141) = 5.37, p = 0.006$ ) and for relatedness ( $F(2,142) = 9.41, p < 0.001$ ), but not for competence ( $F(2,142) = 0.98, p = 0.38$ ). Post-hoc Tukey HSD tests ( $p < 0.01$ ) indicated that the non-Chinese group experienced significantly less relatedness than the English-Chinese and Chinese-Chinese groups, whose experiences were equivalent. The non-Chinese group, however, expressed a greater sense of autonomy than the Chinese-Chinese group, and the English-Chinese group fell midway between the two and differed significantly from neither.

### Correlation and regression analyses

Correlations between the orientations and the two learning-engagement variables produced a similar pattern across the three groups; therefore, only the results for the full sample are reported (see Table 2). Amotivation correlated negatively with both motivational intensity and intention to continue Chinese study. External and introjected regulation were not significantly related to either learning-engagement variable. Identified regulation, integrated regulation, and intrinsic motivation correlated positively and significantly with both variables.

Correlations between the orientations and the community-engagement variables demonstrated different patterns across the three groups (see Table 3). There were few significant correlations between orientations and both frequency and quality of contact variables across the three groups. With respect to Chinese language use outside of class, there were significant correlations only in the case of the English-Chinese learners, such that greater use of Chinese was associated with more

TABLE 2  
Correlations between orientations and learning engagement variables for the full sample

Orientations	Motivational intensity	Intention to continue study of Chinese
Amotivation	-0.39**	-0.43**
External	0.07	0.13
Introjected	-0.01	0.07
Identified	0.42**	0.56**
Integrated	0.21*	0.39**
Intrinsic	0.46**	0.46**

\*  $p < 0.05$  (2-tailed).

\*\*  $p < 0.01$  (2-tailed).

TABLE 3  
Correlations between orientations and community-engagement variables as a function of learner group

Orientations	Identity	Use of Chinese
Chinese-Chinese		
Amotivation	-0.33**	-0.15
External	0.11	-0.14
Introjected	0.07	-0.17
Identified	0.42**	0.12
Integrated	0.49**	0.18
Intrinsic	0.15	0.02
English-Chinese		
Amotivation	-0.25	-0.09
External	0.39*	0.00
Introjected	0.16	-0.25
Identified	0.48**	0.38*
Integrated	0.69**	0.43*
Intrinsic	0.38*	0.34*
Non-Chinese		
Amotivation	-	0.13
External	-	0.06
Introjected	-	0.16
Identified	-	0.17
Integrated	-	0.17
Intrinsic	-	0.26

\*  $p < 0.05$  (2-tailed).

\*\*  $p < 0.01$  (2-tailed).



self-determined forms of extrinsic motivation and with intrinsic motivation. For the Chinese-Chinese group, identity correlated negatively with amotivation, close to zero with external and introjected regulation, relatively strongly and positively with the more self-determined forms of extrinsic motivation, and somewhat more weakly with intrinsic motivation. A similar pattern was evident for the English-Chinese group, although for this group identity correlated more strongly and positively with external regulation.

Standard regression analyses were conducted to investigate the relative contribution of each of the psychological needs to feelings of self-determination (see Table 4). A self-determination index (SDI) was computed by calculating the sum of the orientations, after weighting each regulation to reflect the hypothesized continuum:

$$(-3^* \text{amotivation}) + (-2^* \text{external}) + (-1^* \text{introjected}) + (1^* \text{identified}) \\ + (2^* \text{integrated}) + (3^* \text{intrinsic})$$

All predictor variables were simultaneously entered into the regression equation, such that the relation between each psychological

TABLE 4

Results of standard multiple regression analyses: Predicting the self-determination index from relatedness, autonomy, and competence as a function of learner group

Independent Variables	Equation		Coefficients				
	$R^2$	$F$	$Beta$	$t$	$r$	$pr$	$sr$
Chinese-Chinese	0.47	20.42*					
Relatedness			0.37	2.80*	0.59*	0.32	0.24
Autonomy			0.40	3.93*	0.60*	0.42	0.34
Competence			0.01	0.05	0.39*	0.01	0.04
English-Chinese	0.46	9.24*					
Relatedness			0.50	2.71*	0.57*	0.43	0.35
Autonomy			0.39	2.80*	0.53*	0.44	0.36
Competence			-0.07	-0.41	0.40*	-0.07	-0.05
Non-Chinese	0.42	7.35*					
Relatedness			0.42	2.59*	0.58*	0.42	0.36
Autonomy			0.24	1.55	0.47*	0.27	0.21
Competence			0.14	0.88	0.44*	0.16	0.12

Note:  $r$  = bivariate correlation;  $pr$  = partial correlation;  $sr$  = semi-partial correlation.

\*  $p < 0.05$  (2-tailed).

need (the predictor) and SDI (the criterion) was assessed as if the predictor were entered after the two other psychological needs (see Tabachnick & Fidell, 2007). The statistically significant *F*-test indicated that the combination of the three needs predicted the SDI, and the coefficient of determination ( $R^2$ ) showed that the predictors accounted for a mean of 45% of the variance in the SDI across the three groups. Although all three variables predicted the SDI at the bivariate level, the results of the *t*-tests of the beta coefficients showed that when all three variables were taken into account at the multivariate level, relatedness most consistently predicted a self-determined orientation across the three groups. Autonomy also significantly predicted SDI for the HL learners, but not for the non-HL learners. Perceived competence did not independently predict a more self-determined orientation for any group.<sup>4</sup>

### *Reasons for learning Chinese*

Of the 145 participants in the study, 87 chose to answer the open-ended question about their reasons for learning Chinese: 40 (55.6%) from the Chinese-Chinese group, 21 (58.3%) from the English-Chinese group, and 26 (76.5%) from the non-Chinese group.

Several responses reflected themes that, although well articulated, did not readily fit into the sub-types identified in SDT (e.g., 'It'll help me communicate with more people, it will help me to understand others'). Nonetheless, all the SDT orientations were reflected to some extent in most participants' answers. Approximately 37% of Chinese-Chinese participants, 48% of English-Chinese participants, and 54% of non-Chinese participants gave reasons for learning Chinese consistent with intrinsic motivation, as illustrated by the following response:

I love learning new things and have always been fascinated by East Asian languages. I love Japanese and Linguistics, and so when I had an opportunity to try studying Chinese I jumped at the chance! The sense of accomplishment, the feeling of pride I have when I finally grasp a difficult concept and the excitement of being able to speak and understand a foreign language are what keep me motivated. It is wonderful to learn & grow & see your progress! (Non-Chinese participant)

A form of extrinsic motivation was endorsed by most participants in each group, including 88% of the Chinese-Chinese group, 95% of the English-Chinese group, and 87% of the non-Chinese group. Several

respondents cited reasons that might be construed as external regulation. For some, the reasons were related to achieving course credit, as was straightforwardly summed up in two words by one Chinese-Chinese student: 'easy marks.' For others, the focus was the pragmatic concern of obtaining lucrative employment:

I study Chinese because with the way world economies are shifting, if I am ever interested in International Business, it could be useful. (Non-Chinese participant)

Another participant said,

I don't feel that I will be able to succeed in business with a focus on China if I can't even speak their language or understand their culture. (Non-Chinese participant)

Some felt they ought to learn the language because of feelings of guilt and shame or worries about disappointing others, reminiscent of introjected regulation:

I feel that since I am Chinese, I should know the language. Although I was born in Canada, I feel I should know the written language of Chinese because of various pressures around me. (Chinese-Chinese participant)

All my life I have used English, even though I am of Chinese background. I feel lost when my relatives who don't speak English talk to me in Chinese and I cannot communicate with them, I feel guilty and embarrassed that I don't know my own language. Also, I travel to China a lot and communication is a HUGE obstacle. I need to learn it! (English-Chinese participant)

Other respondents emphasized that their decision was a matter of personal choice, relating to their sense of self. For one respondent in particular, this perspective was clearly distinct from introjected pressures and not dissimilar to the positive feelings associated with intrinsic motivation:

Knowing the language – how to write and read – is very important to me because I am Chinese. Living in a western country does not diminish that. By learning the Chinese language, I can 'maintain' my culture in a country that allows, and even encourages, me to do so. Learning Chinese is not a means to separate myself or gain a 'higher status' within society, that's not the intent. I do not feel patronized nor do I feel as though I am subjected to a

minority group – those are not my reasons for learning the language. I am Chinese, the language is an integral part of me, being able to retain it and pass it on to my children is/will be very important to me. Moreover, I enjoy learning languages. (Chinese-Chinese participant)

Importantly, several participants did not indicate just one reason for learning the language; several noted that there were multiple considerations. For example,

I am learning Chinese in order to prove to myself and my family that I am capable of speaking writing and reading Chinese. Also, I believe that having Chinese as a second language can lead to better job opportunities. If I go to China, or Hong Kong (which I have plans to go there in a few years) it will be very helpful to be able to communicate with other Chinese people. Lastly, in general, I find learning languages to be fun and interesting. (English-Chinese participant)

HL learners' heightened feelings of both introjected and integrated regulation (as well as intrinsic motivation), which were documented in the means analyses of the orientation items, are well articulated in this student's description:

I am learning Chinese because my Chinese background is very important to me. Despite being very North-Americanized and white-washed, I think it is so important that I don't lose this part of myself that is so fundamental, and easy to lose as well. [...] It's embarrassing to be Chinese physically and find yourself in a situation where you can no longer speak the language (especially since you were once very fluent in it) to other Chinese people. Even now, I have a hard time communicating with my grandparents because they don't speak English and I have forgotten many Chinese words and vocabulary. I suppose my reason then is because I want to. I am guilty in a way, but that is not my sole motivation. You can't really describe how it feels to learn about a language you once knew how to speak fluently, forgotten, but can still hear it and understand it. Even when I could speak it, I never learned how to read or write. It is fascinating to finally have characters and words to these sounds that I know. It's strange to only know a language orally, but I definitely love learning how to read and write. Also, I want to pass on the Chinese language to my children one day. Just because I am Canadian is no reason to lose my Chinese culture. (Chinese-Chinese participant)

Some respondents noted multiple reasons that changed over time. For some, a less self-determined form of regulation shifted to a more

self-determined form, as in the case of students who initially attended classes because their parents insisted but later came to enjoy the learning process:

I am learning Chinese because I like the language and hope to use it in my future. I was forced to take it when I was young and grew to love it the language [*sic*]. (Chinese-Chinese participant)

For others, the temporal shift was toward less interest and enjoyment:

I was excited to learn Chinese to be able to learn such an interesting language [. . .] I have started hating Chinese because the learning process has no interesting and fun activities or visuals for learning like French. (non-Chinese participant)

A supportive environment, whether in the family, the community, or the classroom, plays an important role in explaining some of these shifts, as in the case of the student quoted below, whose initial enthusiasm changed to despondency. This shift can be framed as a shift from an intrinsic orientation to external regulation and growing amotivation. Moreover, the student attributes her or his sense of alienation to the teacher's apparent failure to convey warmth, caring, and connectedness, a perspective consistent with SDT's premise that fostering a sense of relatedness is central to maintaining self-determined extrinsic and intrinsic orientations:

The main reason for me to be in Chinese class is so that I can finish my . . . degree. It is an academic mandatory requirement to pass Chinese to graduate. When I signed up for this program I was really excited about learning a new language and the culture that goes along with it. But I am really disappointed in my teacher. She is very tunneled and inflexible in her teaching style. She is more concerned about the material to be covered than the well being of her students, their comfort and to develop the interest among them to motivate them for learning the language. I can't wait to be out of this class. My teacher makes me think twice about continuing my learning of Chinese language. (non-Chinese participant)

## Discussion

The present study had the following objectives: (1) to examine whether learners with different degrees of exposure to the HL differ

social-psychologically, particularly in terms of motivation; (2) to examine the implications of intrinsic and self-determined extrinsic orientations for engagement in language learning and in the Chinese community; and (3) to consider the relative contributions of relatedness, autonomy, and competence in supporting more internalized orientations.

### *Comparing HL learners*

Several researchers argue for a definition of HL learners as native speakers of the target language or as learners who have been exposed to the language in the home from an early age (e.g., Valdés, 2001; Wiley, 2001; Kondo-Brown, 2005). They question whether learners of the same ancestry who have not had such linguistic exposure can also be considered HL learners, given their weaker proficiency. Our results suggest that there are virtually no motivational differences between HL learners who declare Chinese as a mother tongue and those who declare English as a mother tongue. Both HL groups indicated most strongly that they chose to learn Chinese as a means to achieve a goal that is personally important to them. To a somewhat lesser extent, they indicated that they were learning Chinese because it was enjoyable and stimulating, because it was an integral part of who they were, and in response to internalized pressures. Neither group indicated that they considered learning Chinese to be a pointless activity. Moreover, there were few significant differences between the two groups on the engagement variables. Importantly, both groups felt equally strongly that their Chinese ethnicity was central to their sense of self. Thus, from a social-psychological point of view, these two groups of HL learners can be similarly defined.

### *Comparing HL learners with non-HL learners*

On the other hand, the HL groups did differ from the non-HL group. Relative to the non-HL group, the HL groups felt much more strongly that they were learning Chinese because it was a central part of who they were. Moreover, they felt more pressure to learn Chinese than the non-HL group, either because of pressures from others or because of a self-imposed feeling that they ought to learn the language. Because HL learners originated from a Chinese family and community, it is not surprising that these students considered Chinese central to their sense of self. Similarly, both groups of HL learners reported a stronger sense of relatedness to others in the class and to the Chinese community and culture than did the non-HL learners, and also reported greater

frequency of contact with the community and more language use outside the classroom. Indeed, the Chinese-Chinese group also felt less autonomous than the non-Chinese group. It is noteworthy that although the Chinese HL learners described here and the German HL learners studied by Noels (2005) were similar in that they reported higher levels of integrated regulation than non-HL learners, the two groups differed in that the German group reported levels of introjected regulation similar to those of non-HL learners. Perhaps because the Chinese community is large relative to the German community and is steadily growing, Chinese HL learners may experience more interpersonal interactions with family and community members that are linguistically demanding and stressful. Despite this difference, both studies clearly demonstrate that HL learners experience social and psychological dynamics that non-HL learners do not.

#### *Implications of a self-determined orientation for engagement*

Despite these differences, for all groups of learners a more self-determined orientation (i.e., identified, integrated, and intrinsic orientations) predicted greater motivational intensity and a stronger intention to pursue Chinese studies in the future. Because motivational intensity has been shown to predict many positive learning outcomes (for review see Masgoret & Gardner, 2003), we argue that a self-determined orientation is indirectly important for achievement in the language classroom. Moreover, a self-determined orientation is also important for identification with the Chinese community; to the extent that HL learners have internalized the regulation of the language learning activity, they are likely to say that their Chinese ethnicity is central to their sense of self.

More self-determined orientations did not consistently predict language use, however. For non-Chinese learners, there was no significant correlation between any orientation and language use. Given that non-Chinese learners reported little contact with the Chinese community, and thus few opportunities to use the language, their feelings of agency may be virtually irrelevant in predicting language use; with little opportunity, they have few choices to make. Moreover, even if they were to initiate conversations when the opportunity presents itself (e.g., in a store, at a party), they might face normative pressure to speak English that could be intimidating and difficult to overcome. There were also no significant correlations between orientation and language use for the Chinese-Chinese group. In this case, where

family and community members recognize the learner as a native Chinese speaker, the choice of language may be driven not by the individual's own volition but by the normative expectations of others. For the English-Chinese group, however – who had both opportunity for contact and less clear normative expectations regarding language use – feelings of self-determination were an important predictor of Chinese language use. This interpretation is consistent with a perspective in which personal choice is constrained by the opportunities afforded by the situation and by the normative expectations of others.

*Supporting a self-determined, intrinsic orientation*

Our findings indicate that relatedness was the most consistent predictor of a self-determined orientation across the three groups and that autonomy predicted a self-determined orientation only for the HL groups. These findings are in line with previous research that has emphasized the importance of a supportive family and community environment (e.g., Chow, 2001; G. Li, 2006) but somewhat at odds with SDT's emphasis on autonomy as the key to internalized, self-regulated motivation. Unlike many other contexts to which SDT has been applied (e.g., health, workplace, sports), motivated language learning is often tied to the hope of transforming oneself into an accepted member of a new community – compare 'imagined community' (e.g., Norton, 2001) and 'integrative orientation' (Gardner, 1985) – with sufficient influence to reciprocally transform the community (see He, 2008; Noels & Clément, 1989). Thus, regardless of learner type, a sense of welcome from the language community is essential for internalizing the language into the self and making this possibility a reality.

Autonomy may be differentially important across learner groups because of their unique learning contexts. In Canada, because there is relatively little pressure for non-Chinese students to learn Chinese, those who decide to learn this rather difficult language likely do so out of curiosity and in pursuit of personal goals. Because they feel strongly that they are learning out of personal choice, autonomy is not an issue that greatly affects their motivation. HL learners, on the other hand, feel less autonomy and more pressure to learn the language. Thus, autonomy is much more at issue for HL learners, and therefore it figures more prominently in their motivational profile.

The findings reported here have ramifications for teaching practices. Certainly, differences in exposure to the target language have implications for the difficulty level and the kinds of linguistic and



communicative material that students can handle. In other respects, however, HL learners from all backgrounds might benefit similarly from certain teaching practices and content. Given the importance of autonomy in enhancing motivation, HL learners especially might benefit from teaching practices that introduce self-regulation into the classroom (see Douglas, 2008). All students would likely also benefit from the inclusion of content that develops their interest in connecting with the Chinese community. Getting students involved in activities of the local community, engaging them in personal stories of migration and settlement, and exposing them to traditional and popular cultural practices could all foster greater relatedness with the community (see Kagan, 2005). In addition to these suggestions, given the finding that HL learners experience pressure to learn the language, it might be useful to explore these issues with students to avoid the negative, demotivating effect that such demands can produce.

The fact that respondents generally endorsed multiple orientations in their responses to both closed- and open-ended questions underscores the inappropriateness of framing orientations as categorical and exclusive. From an SDT perspective, the sub-types of motivation are more appropriately conceived as points along a continuum. Although certain forms may be more prominent at different points in time, these can shift, arguably as a function of the social supports for relatedness, autonomy, and competence. This possibility highlights the importance of developing teaching practices and teacher communication styles that support these three needs (see Noels, 2001).

#### *Future directions for teaching and research*

The present study addresses several issues related to HL learning, such as the distinction between various groups of HL learners (Kondo-Brown, 2005) in their motivation for studying Chinese, the psychological processes behind the reasons people choose to learn Chinese, and the implications of these reasons for engagement in learning and in the community. It extends previous research on HL learning that emphasizes the importance of personal choice, competence, and a sense of belonging for motivation (e.g., Noels, 2005) by demonstrating that HL learners with varying degrees of linguistic proficiency may be more similar than different social-psychologically.

Although the principles of SDT provide a useful lens through which to examine HL learning, research must be extended to consider HL learners with more varied degrees of ancestral relatedness. As well, although participants' responses to the open-ended questions offered a

glimpse at how learners articulate their reasons for learning Chinese, alternative approaches that allow for more elaboration and greater depth of analysis would improve understanding of learners' rationales within each unique set of circumstances (see Noels et al., 2009). Closer attention needs to be directed to understanding how specific individuals – such as family members, teachers, and members of the HL community – foster learners' sense of autonomy, competence, and relatedness (see Noels & Saumure, 2009). And longitudinal research could usefully document shifts in orientations, test causal directions, and determine the long-term consequences of orientations for language achievement and community engagement (see Noels, 2009b). These kinds of investigations and others will contribute much to our understanding of the experiences of HL learners across diverse learning contexts.

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### Notes

- 1 Participants who indicated a language background other than Chinese or English were deleted from the sample.
- 2 More details on the instruments developed by Noels et al. (2000) can be found at <http://www.psych.ualberta.ca/~knoels/personal/lab/>.
- 3 Because the three groups were different in size, we re-ran the analyses a second time with a random sub-sample of 34 participants selected from the Chinese-Chinese group. All results of the second set of analyses were consistent with our analyses with the larger sample.
- 4 Statistical, or stepwise, regression analyses, in which the order of entry of the predictor variables is based only on statistical criteria (Tabachnick & Fidell, 2007), were also computed. These analyses yielded results similar to those of the standard regression analyses.

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