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Factors underlying second language reading motivation of adult EAP students

Reiko Komiyama
California State University, Sacramento
United States

Abstract

Characteristics of English for Academic Purposes students' second language (L2) motivation were examined by identifying underlying motivational factors. Using the motivation constructs created by first language reading researchers, a survey was developed and administered to 2,018 students from 53 English language programs in the U.S. Survey responses were analyzed through exploratory and confirmatory factor analyses. Results indicate that a five-factor structure was best for interpreting the data, accounting for approximately 44% of the total variance. The identified factors included one intrinsically-oriented factor (Intrinsic Motivation) and four extrinsically-oriented factors (Drive to Excel, Academic Compliance, Test Compliance, Social Sharing). The results support the multidimensional nature of L2 reading motivation and the importance of intrinsic motivation in explaining L2 reading motivation.

Keywords: motivation, intrinsic and extrinsic motivation, English for Academic Purposes, intensive English program

Despite the importance of reading in English for Academic Purposes (EAP) contexts, the role of motivation in developing EAP reading skills is inadequately understood. Researchers have long recognized that motivation cannot be neglected in understanding how second language (L2) reading works (e.g., Eskey, 1986; Grabe, 2009; Grabe & Stoller, 2011). However, motivation has been viewed as a relatively minor issue in L2 reading research (Huang, 2006), and, as a result, research on L2 reading motivation has just started to grow. In contrast, research on first language (L1) reading motivation is expansive. Research with L1 readers indicates that motivation closely associates with reading behaviors, such as increased reading amount, better text comprehension, and more effective strategy use (e.g., Gottfried, 1990; Guthrie et al., 2007; Lau & Chan, 2003; Wang & Guthrie, 2004). The importance of motivation in L1 reading development suggests the need to thoroughly explore the potential impact of motivation on L2 reading behaviors and outcomes. This need seems particularly prominent in EAP contexts, where students are often under tremendous pressure to become highly proficient L2 readers. The present study, therefore, examined L2 reading motivation of students in North American post-secondary EAP contexts.

As the bases for measuring, interpreting, and discussing student motivation, the study adopted the motivation constructs identified by L1 reading researchers, focusing on those related to the concepts of intrinsic and extrinsic motivation in particular.

Nature of L1 Reading Motivation

Research with L1 readers has indicated that motivation to read is not a unitary concept. In their research with elementary school children in the U.S., Wigfield and Guthrie (1997) identified as many as eleven dimensions—or constructs—of L1 reading motivation. These constructs were based on multiple theories and concepts related to human motivation, including self-efficacy theory (e.g., Bandura, 1986; Shunk & Pajares, 2004), the concepts of intrinsic and extrinsic motivation (e.g., Deci & Ryan, 1985; Ryan & Deci, 2000), expectancy-value theory (e.g., Wigfield & Eccles, 2000), goal-orientation theory (e.g., Dweck & Leggett, 1988; Nicholls, Cheung, Lauer, & Patashnick, 1989), and the concept of socially-oriented goals (e.g., Wentzel, 1991, 1996). The distinctiveness of the eleven constructs has been supported empirically with children at fourth, fifth, and sixth grades in the U.S. (Baker & Wigfield, 1999; Wigfield & Guthrie, 1997). This eleven-dimensional framework has since been widely adopted or adapted in research across various L1 settings, including K-12 educational institutions in the U.S. (e.g., Baker & Wigfield, 1999; Guthrie et al., 2006; Guthrie, Hoa, Wigfield, Tonks, & Perencevich, 2006; Guthrie, Wigfield, & VonSecker, 2000; Mucherah & Yoder, 2008), in Hong Kong (Lau, 2004), and in Slovenia (Pecjak & Peklaj, 2006).

Wigfield and Guthrie's (1997) framework was later revised by Wang and Guthrie (2004), who proposed an eight-dimensional model instead. Of the original eleven constructs, Wang and Guthrie's (2004) model retained only those related to the concepts of intrinsic and extrinsic motivation. Intrinsic motivation differs from extrinsic motivation in that it originates in the desire to engage in an activity solely for the enjoyment that it provides (Deci & Ryan, 1985; Ryan & Deci, 2000). Three of Wang and Guthrie's (2004) constructs—Curiosity, Involvement, and Preference for Challenge—were associated with intrinsic motivation, indicating that intrinsically-motivated readers would read because they want to learn about topics of personal interest, to experience pleasure reading interesting materials, and to gain satisfaction from tackling challenging ideas presented in text. Unlike intrinsic motivation, extrinsic motivation is generated by factors such as external rewards (e.g., recognition), internal feelings (e.g., guilt), and societal values (e.g., importance) assigned to the target activity (Deci & Ryan, 1985; Ryan & Deci, 2000). Five remaining constructs of Wang and Guthrie (2004)—Competition, Compliance, Recognition for Reading, Grades, and Social—were associated with extrinsic motivation. Extrinsically-motivated readers, therefore, were thought to read to fulfill requirements, outperform peers, obtain good evaluations and recognition from others, and share what they read with others. In Wang and Guthrie's study, the stability and validity of the eight-dimensional model were supported by a sample of fourth-grade children in the U.S. and a similar sample in Taiwan, both reading in their L1s.

Nature of L2 Reading Motivation

The constructs of L1 reading motivation discussed above have influenced research on L2 reading motivation to various degrees. Some L2 research on the nature of reading motivation has been directly influenced by the two models of L1 reading motivation. Tercanlioglu (2001) adopted Wigfield and Guthrie's (1997) eleven-dimensional framework. She found that high school English as a foreign language (EFL) students in Turkey demonstrated both high intrinsic and high extrinsic motivation, with relatively low levels of work avoidance. Some variations across gender and grade levels were observed in her study. Wang and Guthrie's (2004) eight-dimensional model was used by Dhanapala (2006), who examined L2 reading motivation of college EFL students in Japan and in Sri Lanka. Her results indicate that both Japanese and Sri Lankan students tended to read for extrinsic reasons, such as receiving recognition from others. Some differences, however, were observed between the two EFL settings: Compliance motivation was favored by Japanese students, but for Sri Lankan students, Grades and Competition appeared to be strong motivators. In both studies, the motivation constructs developed for L1 readers proved to be useful in interpreting motivational tendencies of L2 readers.

Other L2 researchers (e.g., Apple, 2005; Kondo-Brown, 2009; Lin, Wong, & McBride-Chang, 2012; Mori, 2002, 2004; Takase, 2007) sought motivation constructs unique to L2 readers, using various theories, concepts, and constructs, including those proposed by L1 reading researchers. Table 1 summarizes the motivation constructs that emerged from these L2 studies. As shown in Table 1, the motivation constructs identified in these L2 reading studies have often been associated with the concepts of intrinsic and extrinsic motivation. For example, in Takase (2007), the reading motivation of Japanese high school EFL students was characterized by Intrinsic Motivation for L1 Reading, Intrinsic Motivation for L2 Reading, and Entrance-exam Related Extrinsic Motivation, together with three other constructs.

Table 1. *Reading motivation constructs identified by L2 researchers*

Source	Participants	Constructs of L2 reading motivation identified
Apple (2005)	85 college EFL students in Japan	a) Instrumental Orientation b) Attitudes toward L1 Reading c) Interest in L2 Language and Culture d) Language Learning Beliefs e) Attitudes toward L2 Study
Lin, Wong, & McBride-Chang (2012)	104 5th graders in Hong Kong	a) Self Efficacy b) Curiosity c) Involvement d) Recreation e) Grade f) Instrumentalism g) Social-family h) Social-peer
Kondo-Brown (2009)	123 college L2 Chinese, Korean, and Japanese students in the U.S.	a) Extrinsic Value b) Intrinsic Involvement c) Motivational Lack d) Reading Efficacy
Mori (2002)	447 college EFL students in Japan	a) Intrinsic Value of Reading b) Extrinsic Utility Value of Reading c) Importance of Reading d) Reading Efficacy
Mori (2004)	100 college EFL students in Japan	a) Intrinsic Value b) Attainment Value c) Negative Intrinsic Value in Novels
Takase (2007)	219 high school EFL students in Japan	a) Intrinsic Motivation for L1 Reading b) Intrinsic Motivation for L2 Reading c) Parents' Involvement in and Family Attitudes toward Reading d) Entrance Exam-Related Extrinsic Motivation e) Fondness for Written Materials f) Internet-Related Instrumental Motivation and Negative Attitude toward Extensive Reading

Note. Huang' (2006) factors that motivate L2 students to read were excluded from Table 1 because of their situational nature.

Relationships between Motivation and Reading Behaviors

Understanding the nature of reading motivation—just like the L1 and L2 studies above have attempted—is essential for preparing researchers to investigate the relationships between students' motivational tendencies and reading development. Research with school-age L1 readers indicates that intrinsic and extrinsic motivation both positively relate to reading amount (e.g., Guthrie, Wigfield, Metsala, & Cox, 1999), strategy use (Lau & Chan, 2003), and text comprehension (e.g., Lau & Chan, 2003; Unrau & Schlackman, 2006; Wang & Guthrie, 2004). Intrinsic motivation, however, appears to be a stronger indicator of the students' larger reading amount (e.g., Wang & Guthrie, 2004; Wigfield & Guthrie, 1997), better text comprehension (e.g., Lau & Chan, 2003; Wang & Guthrie, 2004), though this trend may be impacted by students' ethnic backgrounds (Unrau & Schlackman, 2006) and perhaps age (e.g., Konheim-Kalkstein & Van den Broek, 2008).

Relationships between motivation and actual reading behaviors have been examined in several L2 studies as well. For example, positive relationships between intrinsic motivation and reading amount were found in Takase (2007), Dhanapala (2006), and Tercanlioglu (2001), with EFL students in Japan, Sri Lanka, and Turkey. In Dhanapala (2006) and Tercanlioglu (2001), extrinsic motivation also positively correlated with reading amount, but generally to a lesser degree. With fifth-grade bilingual students in Hong Kong, Lin, Wong, and McBride-Chang (2012) found that students' L2 reading comprehension was predicted only by an extrinsically-oriented dimension (i.e., Instrumentalism). Takase (2007) found no significant correlations between motivation and text comprehension with EFL students in Japan. Overall, whereas L1 research seems to indicate close connections between intrinsically-oriented motivation constructs and reading outcomes, L2 research has not yielded enough evidence to support or reject the assertion.

The studies reviewed above illustrate two points. Firstly, L2 reading motivation is multi-dimensional and understanding this multi-dimensional nature of motivation enables researchers to examine the relationships between motivation and reading behavior. Understanding such relationships, in turn, can assist researchers, teachers, and administrators in designing L2 reading instruction that nurtures student motivation in effective ways. Secondly, the concepts of intrinsic and extrinsic motivation appear to be a useful way to characterize L2 readers' motivation.

Current research on L2 reading motivation—which has been almost exclusively conducted in foreign language settings—is still in its early stages. One obvious gap is the lack of research on adult English as a second language (ESL) students whose primary purpose for studying their L2 is academic success in North American university contexts. As mentioned, the need for these students to become advanced English readers cannot be overemphasized. Thus, the role that motivation might play in their successful L2 reading development must be thoroughly examined. The present study attempted to fill this gap.

Research Question

The following major research question was posed in the study: What are the factors that characterize L2 reading motivation of post-secondary students studying in North American EAP settings? In this study, the concepts of intrinsic and extrinsic motivation (e.g., Deci & Ryan, 1985; Ryan & Deci, 2000) that underlie Wang and Guthrie's (2004) model of L1 reading motivation were used to explain the identified factors.

The present study involved three phases. The purpose of the first phase was to develop a questionnaire that would allow the researcher to reliably measure students' L2 reading motivation. A revised questionnaire was then administered during the second phase, in order to identify the factor structure of L2 reading motivation. The purpose of the third phase was to examine the stability of the identified factors.

Phase 1: Pilot Study

During the first phase, an L2 reading motivation questionnaire was developed using the intrinsic and extrinsic L1 reading motivation constructs proposed in Wang and Guthrie (2004). The questionnaire was piloted with a group of students, and then revised.

Methods

Participants

In this phase of the study, 172 ESL students studying in U.S. post-secondary institutions (86 males, 85 females, 1 unknown) participated. Their ages ranged from 18 to 59 years old (M = 23.6). The participants were from 31 different countries and spoke 22 different languages as their L1 (see Table 2). Most participants (n =152) were recruited from among students enrolled in English language programs at five U.S. colleges and universities. The remaining participants (n = 20) were students enrolled in undergraduate or graduate mainstream classes at two of the five institutions.

Table 2. *Participants' demographic background (pilot study)*

Background		Frequency	Percent
Country of origin	China	51	30.0
	South Korea	37	21.8
	Saudi Arabia	25	14.7
	Japan	9	5.3
	Other[a]	50	28.2
L1	Chinese	57	33.5
	Korean	37	21.8
	Arabic	25	14.7
	Spanish	21	12.4
	Japanese	9	5.3
	Other[b]	23	12.3

[a]Fewer than 9 students (5%) were from each of the remaining 27 countries.
[b]Fewer than 9 students (5%) spoke each of the remaining 17 languages.

Instrument

To measure L2 reading motivation for this study, a questionnaire was created based on the Motivation for Reading Questionnaire (MRQ) used in Wang and Guthrie (2004). The MRQ is considered to be the most comprehensive motivation measure currently available for L1 readers (Lau, 2004; Lin et al., 2012). The instrument developed for the current study, *the Motivation for Reading in English Questionnaire* (MREQ), was designed to tap the same eight dimensions of reading motivation as Wang and Guthrie's (2004). See Table 3 for the definition of each dimension. A majority of the MREQ items were adapted from Wang and Guthrie (2004), with modifications made to make the items appropriate for the target population of the study. Besides the items from Wang and Guthrie (2004), several new statements were added to the MREQ. These new statements were written to complement the definitions of Wang and Guthrie's (2004) eight dimensions, while reflecting the unique situations in which EAP reading occurs. For example, a new item "I try to read in English because I need a good TOEFL score" was included to tap the Compliance dimension of L2 readers, who need to obtain sufficient scores on the Test of English as a Foreign Language (TOEFL) to become fully matriculated in mainstream university classes in the U.S.

The pilot version of the MREQ comprised 59 statements related to L2 reading motivation. Students were asked to respond to these statements on a four-point Likert scale (4 = a lot like me, 3 = a little like me, 2 = a little different from me, 1 = very different from me) adapted from Wang and Guthrie (2004). The 59 statements were ordered randomly, except for the first and last four items which were the shortest statements from each dimension, making the beginning and end of the questionnaire easy for students to process. The internal consistency estimate of reliability (Cronbach's alpha) of each dimension ranged from .69 to .82 (see Table 4).

Table 3. *Definitions of eight constructs of reading motivation used in the current study*

Dimension of reading motivation	Definition	Underlying theoretical concepts
Curiosity	Desire to learn about a particular topic of interest	Intrinsic motivation
Involvement	Pleasure gained from reading a well-written book, article, or Web site on an interesting topic	
Preference for challenge	Satisfaction from mastering or assimilating complex ideas in text	
Competition	Desire to outperform others in reading	Extrinsic motivation
Compliance	Desire to read because of an external goal or requirement	
Grades	Desire to receive good grades and to be favorably evaluated by the teacher	
Recognition	Gratification from receiving a tangible form of recognition for success in reading	
Social sharing[a]	Satisfaction from sharing the meanings gained from reading with peers	

Note. These constructs originate in Wigfield (1997) and Wang and Guthrie (2004).
[a]This dimension is labeled *Social* in Wang and Guthrie (2004).

Table 4. *Reliability of the MREQ (pilot study)*

Dimension	Number of items	Cronbach's alpha
Curiosity	8	0.80
Involvement	8	0.77
Preference for challenge	8	0.73
Competition	8	0.81
Compliance	7	0.70
Grades	6	0.69
Recognition	8	0.77
Social sharing	6	0.82

Procedures

The participants completed the MREQ in class or outside of class, depending on the institution that they were affiliated with. Students were allowed to spend as much time as needed. Permission to conduct the study was obtained from the Institutional Review Board (IRB) at the researcher's own institution, and all five participating language programs required no other form of permission.

Analysis

Students' responses to the 59 reading motivation statements were analyzed through an exploratory factor analysis. The steps followed to conduct this analysis were identical to those that will be described in detail shortly, under Phase 2.

Results

Results indicated that six items did not perform well in identifying the most plausible interpretation of the data. That is, with the factor solution that seemed the most appropriate to interpret the data, three items yielded communalities of lower than .20, and three additional items did not load sufficiently on any factors identified. These six items were deleted, and the remaining 53 items were retained for the next phase of the study (The factor structure found during this phase of the study is not discussed in this article because the primary purpose of Phase 1 was to identify and eliminate the MREQ items that were unlikely to perform well in the main study).

Phase 2: Main Study

During the second phase of the study, the revised MREQ was administered to a new group of students. Approximately 70% of the data was then analyzed to identify factors that characterized the students' L2 reading motivation.

Methods

Participants

Participants were recruited from among students enrolled in English language programs at U.S. post-secondary institutions. A total of 2,018 students, from 53 English language programs, participated in the study (1,037 males, 980 females, 1 unknown). Their ages ranged from 18 to 68 (M = 24.0). They represented 92 countries and spoke 55 different languages as their L1 (see Table 5). Based on the proficiency indices at their own language programs, the students' L2 proficiency fell within the range of *high beginning* to *advanced*. To ensure that study participants could read and respond to the MREQ appropriately, students whose L2 proficiency was lower than *high beginning* were not recruited for the study. Of the 2,006 students who provided information about their purposes for coming to the U.S., 578 (28.8%) and 756 (37.5%) reported that they came to the U.S. to earn an undergraduate degree and a graduate degree, respectively. Other reasons included studying at a U.S. university as an exchange student, experiencing U.S. college life without pursuing a degree, improving English proficiency in general, and experiencing American life and culture.

The 53 English language programs that participated in the study had a specialized mission to prepare ESL students for academic success at post-secondary U.S. institutions (although they

also admit students who focus on improving general English proficiency). Fifty-one programs were affiliated with four-year colleges or universities, one program was offered at a community college, and one program was part of a higher education center that housed two four-year colleges and one community college. The number of student participants from each program ranged from 8 to 181.

Table 5. *Participants' demographic backgrounds (main study)*

Background		Frequency	Percent[a]
Country of origin	South Korea	474	23.6
	China	315	15.7
	Saudi Arabia	235	11.7
	Japan	193	9.6
	Taiwan	159	7.9
	Turkey	72	3.6
	Vietnam	72	3.6
	Mexico	43	2.1
	Thailand	43	2.1
	Libya	33	1.6
	Brazil	28	1.4
	Kazakhstan	27	1.3
	Columbia	24	1.2
	U.A.E.	24	1.2
	Russia	21	1.0
	Other[b]	247	12.4
L1	Korean	473	23.4
	Chinese	462	23.0
	Arabic	327	16.3
	Japanese	194	9.7
	Spanish	149	7.4
	Turkish	73	3.6
	Vietnamese	71	3.5
	Thai	42	2.1
	French	33	1.6
	Russian	26	1.3
	Portuguese	37	1.8
	Kazakh	24	1.2
	Other[c]	99	5.1

[a]Eight students did not report their country of origin and L1.
[b]Fewer than 21 students (1%) were from each of the remaining 77 countries.
[c]Fewer than 21 students (1%) spoke each of the remaining 43 languages.

Instrument

The revised MREQ consisted of two parts. Part 1 included questions about students' age, sex, country of origin, L1, purpose for coming to the U.S., scores on standardized English tests (if available), as well as weekly amounts of reading. Part 2 included 53 reading motivation statements, to which students were asked to respond on the same four-point Likert scale as the pilot version. Two examples were provided at the beginning of Part 2 to familiarize students with the response format. Like the pilot version, the first four and the last four items consisted of the shortest statements, and the remaining statements were randomly ordered. Cronbach's alpha of the 53 items yielded .92.

Procedures

The MREQ was mailed to participating English language programs. Student participants spent 30 minutes to complete the MREQ: four minutes for Part 1 and up to 24 minutes for Part 2 (2 minutes were reserved for providing directions). Except for one participating program, the MREQ was administered by the program faculty, following the directions provided by the researcher. Upon request from the program, the researcher herself visited one site and administered the instrument. Completed questionnaires were then returned to the researcher.

Permission to conduct the study was first obtained from the IRB at the researcher's own institution. Of the 53 participating language programs, 33 requested this initial permission only. Twenty institutions reviewed the project themselves before approving it: Eleven institutions conducted an administrative review; six institutions conducted an expedited review; and three institutions granted the project an exemption from IRB review.

Analysis

An exploratory factor analysis (EFA) was conducted on the student responses to the 53 reading motivation statements (in the MREQ Part 2).This analysis was performed using approximately 70% (n = 1,400) of the entire data set (N = 2,018), leaving approximately 30% of the data (n = 618) for a follow-up analysis conducted during the third phase of the study. To divide the full data set into two groups, 70% of the students from each participating program (except for one program) were selected using SPSS's random case sampling procedure. Students in one program (n = 15) were excluded from the EFA because the data arrived too late and it was believed that the addition of the 15 participants would not change its overall results; these data, however, were included in the analysis during the third phase of the study. All statistical analyses were conducted through SPSS 13.0. Prior to the factor analysis, the data were screened for errors, missing values, and other potential problems. With the 53 reading motivation variables, 96 multivariate outliers were detected and deleted, which left 1,304 cases for further analysis. Multivariate normality was assumed only partially because 39 out of the 53 MREQ Part 2 items were significantly, negatively skewed (with a criterion of ± 3.29). As a result, linearity and homoscedasticity between pairs of variables were believed to exist only partially. The absence of multicollinearity was supported by the tolerance indices; none of the indices was at or below .10.

Principal axis factoring with a promax rotation was performed to determine the number and

characteristics of factors underlying students' L2 reading motivation. Factorability of the data was supported by the correlations among variables and by the Kaiser-Meyer-Olkin measure of sampling adequacy.

Eleven factors with eigenvalues of larger than 1.0 were initially extracted, accounting for 54.1% of the total variance. To avoid overfactoring and to seek a simpler structure, the eigenvalue of each factor, as well as an associated scree plot, was examined. Two- through eight-factor solutions underwent further analysis. Pattern matrices and factor loadings were closely examined to choose the factor structure that was most stable and best explained the data. Further guidelines to ensure stability of the structure included the need for at least four interpretable loadings on each factor in the matrix.

Results

Results of the above analysis indicated that a five-factor solution presented the simplest structure to interpret the data meaningfully (see Table 6). With the five-factor solution, however, six items yielded communalities of lower than .20. These six items were deleted. With the remaining 47 items, Cronbach's alpha for each scale ranged from .77 to .88, which was considered to be good. Correlations among the five factors ranged from .04 to .58 (see Table 7). Altogether, the five factors accounted for 44.1% of the shared variance. Table 8 summarizes the label given to each factor, number of items loaded on each factor, and the shared variance explained by each factor.

Table 6. *Factor loadings for EFA with promax rotation of the 47 MREQ items*

MREQ item	Corresponding construct[a]	Factor				
		1	2	3	4	5
I like reading in English to learn something new about people and things that interest me.	Curiosity	0.74				
I like reading a lot of interesting things in English.	Involvement	0.70				
I feel happy when I read about something interesting in English.	Curiosity	0.65				
When the topic is interesting, I am willing to read difficult English materials.	Challenge	0.64				
It's fun for me to read about something I like in English.	Involvement	0.59				
It is hard for me to stop reading in English when the topic is interesting.	Involvement	0.57				
I like reading about new things in English.	Curiosity	0.55				
I enjoy reading when I learn complex ideas from English materials.	Challenge	0.55				
I like it when the topic of an English reading makes me think a little more.	Challenge	0.51				
I like challenging myself while reading in English.	Challenge	0.48				
I enjoy reading good, long stories in English.	Involvement	0.48				
I like hard, challenging English readings.	Challenge	0.47				
When an assignment is interesting, I can read difficult English materials more easily.	Challenge	0.47				

Table 6. continued

When I am reading about an interesting topic in English, I sometimes lose track of time.	Involvement	0.45			
When my teacher or friends tell me something interesting, I might read more about it in English.	Curiosity	0.43			
I enjoy reading in English to learn what is going on in the U.S. and in the world.	Curiosity	0.43			
I am willing to work hard to read better than my friends in English.	Competition		0.81		
I like being the only student who knows an answer about something we read in English.	Competition		0.79		
I like my teacher to say that I read well in English.	Recognition		0.67		
When I complete English reading assignments for class, I try to get more answers correct than my classmates.	Competition		0.66		
When I read in English, I like to finish my reading assignments before other students.	Competition		0.65		
I like my friends to tell me that I am a good English reader.	Recognition		0.64		
I want to be the best at reading in English.	Competition		0.60		
When some classmates read English better than me, I want to read more English materials.	Competition		0.53		
I like it when my teacher asks me to read English aloud in class.	Recognition		0.48		
I like to get positive comments about my English reading.	Recognition		0.46		
When I read in English, I often think about how well I read compared to others.	Competition		0.43		
I practice reading in English because I feel good when I answer teachers' questions correctly in class.	Recognition		0.43		
I feel happy when my friends ask me for help with their English reading assignments.	Recognition		0.36		
Finishing English reading assignments on time is very important for me.	Compliance			0.71	
I usually try to finish my English reading assignments on time.	Compliance			0.64	
It is important for me to receive a good grade in my English reading course.	Grades			0.53	
I do my English reading assignments exactly as the teacher tells me to do them.	Compliance			0.52	
I look forward to finding out my grades in English reading.	Grades			0.40	
I want to read in English to improve my grades.	Grades			0.39	
I work harder on English reading assignments when they are graded.	Grades		(0.36)	0.37	
I try to read in English because I need a good score on tests like TOEFL, Michigan, IELTS, etc.	Compliance				0.88
I try to read in English because I like seeing my reading score improve on tests like TOEFL, Michigan, IELTS, etc.	Recognition				0.78
I practice reading in English because I want a higher	Competition			(0.41)	0.60

Table 6. continued

reading score than my friends and classmates on tests like TOEFL, Michigan, IELTS, etc.			
I practice reading in English because I need to do well in my future classes.	Compliance	0.38	
I enjoy telling my friends about the things I read in English materials.	Social sharing		0.72
My friends and I like to share what we read in English.	Social sharing		0.72
I like talking with my friends about what I read in English.	Social sharing		0.56
I like joining class discussions about what I read in English.	Social sharing		0.39

Note. Three MREQ items did not load on any one factor at .35 or higher, though they each contributed to the overall communality estimate. These three items are not listed in Table 6.
[a]See Table 3 for the definitions of these constructs.

Table 7. *Factor correlation matrix*

Factor	1	2	3	4	5
1	–	0.40	0.42	0.05	0.56
2		–	0.58	0.48	0.44
3			–	0.40	0.30
4				–	0.04
5					–

Table 8. *Label, number of items, and shared variance for each factor*

Factor	Label	Number of items	Shared variance
1	Intrinsic motivation	16	23.30
2	Extrinsic drive to excel	15	9.47
3	Extrinsic academic compliance	8	4.88
4	Extrinsic test compliance	4	3.40
5	Extrinsic social sharing	4	3.04

As Table 6 shows, the five identified factors present distinctive characteristics. Factor 1 ($\alpha = .88$) comprised 16 items that loaded on this factor significantly (i.e., at or above .35). These items represented Wang and Guthrie's (2004) Curiosity, Involvement, and Preference for Challenge constructs. All three constructs have been associated with intrinsic motivation. Factor 1, therefore, was labeled *Intrinsic Motivation*.

Factors 2 through 5 consisted of items associated with extrinsic motivation. Factor 2 ($\alpha = .88$) was composed of seven Competition items and eight Recognition items that loaded on this factor significantly. Both Competition and Recognition dimensions related to students' desires to demonstrate excellence in L2 reading; thus, Factor 2 was labeled *Extrinsic Drive to Excel*.

Factor 3 ($\alpha = .77$) included three Compliance items and four Grade items that loaded on this factor significantly. The Compliance items were about completing English reading assignments.

The Grades items were about receiving good grades for English reading assignments and courses. Completing assignments and obtaining good grades both associated with the sense of obligation as students. Therefore, this factor was labeled *Extrinsic Academic Compliance*.

Four items loaded on Factor 4 ($\alpha = .80$). This group was a mixture of Competition, Recognition, and Compliance items. A notable characteristic of these four items was that they were all researcher-made items; that is, none of the four were adaptations of Wang and Guthrie's (2004) items. Three items were about obtaining good scores on L2 standardized tests, and one item was about doing well in future classes. Because the three test-related items loaded more strongly than the fourth item, Factor 4 was labeled *Extrinsic Test Compliance*.

The last factor, Factor 5 ($\alpha = .78$), included four items. All of them represented Wang and Guthrie's (2004) Social Sharing construct. These four items primarily focused on students' sharing of their readings with peers, rather than with the teacher or other adults. Factor 5 was labeled *Extrinsic Social Sharing*.

The results described above indicate some differences between Wang and Guthrie's (2004) model and the factor structure found in this study. Wang and Guthrie's (2004) three intrinsic motivation constructs (i.e., Curiosity, Involvement, Preference for Challenge) have emerged as one factor in the present study, indicating that for present study participants, the three constructs are integral parts of intrinsic motivation. Similarly, Wang and Guthrie's (2004) Competition and Recognition constructs merged into one motivation factor, Extrinsic Drive to Excel. Grades and Compliance items from Wang and Guthrie (2004) have also tended to cluster together, which indicates that willingness to read for good grades and willingness to read to complete assignments are similar in nature for the present study participants. During the next phase of the study, the stability of this five-factor structure of L2 reading motivation was examined.

Phase 3: Follow-up Study

The purpose of the third phase of the study was to examine the stability of the five-factor structure of L2 reading motivation described above. The data set that was reserved during Phase 2 (that is, approximately 30% of the total data collected from the main study participants) was used for this purpose.

Methods

Participants, Instrument, and Procedures

See the Phase 2 Methods section for the descriptions of the participants, the instrument, and the data collection procedures.

Analysis

A confirmatory factor analysis (CFA) was conducted on the student responses to the 47 MREQ

items that formed the five-factor structure. Data from a total of 618 main study participants (excluded from the EFA) were analyzed to examine the fit of the hypothesized five-factor model (see Table 6) to the new set of observed data. Statistical analyses were conducted through SPSS 17.0 and AMOS 17.0. Prior to the CFA, the data were screened for errors and other potential problems. Fifty-six multivariate outliers were detected and excluded, leaving 562 cases for further analysis. Linearity and homoscedasticity were thought to exist only partially since 31 items were significantly negatively skewed (with a criterion of ± 3.29). The absence of multicollinearity and the factorability of the data were both supported, based on the same indices as the ones used for the EFA.

Results

The fit of the five-factor model to the observed data was assessed through two fit indices—the comparative fit index (CFI) and root mean square error of approximation (RMSEA)—as well as the standardized root mean square residual (SRMR). Table 9 summarizes the results. With the maximum likelihood method of estimation, the CFI yielded .81, while a value of .95 or above is considered to be good (Hu & Bentler, 1999). The RMSEA yielded .06, indicating a good fit (according to Hu and Bentler, who suggested a good value to be .06 or less). The SRMR was .05, which fell within the range of desired values (.08 or less, according to Hu and Bentler [1999]). The chi-square statistic was not used to assess goodness of fit because of the large sample size. Tabachnick and Fidell (2007) noted that when used with large samples, the chi-square value often turns significant even when differences between sample and estimated population covariance matrices are rather trivial.

Table 9. *Goodness-of-fit indicators of the five factor structure of L2 reading motivation*

Model	CFI	RMSEA	SRMR
Five factors identified through MREQ	0.81	0.06	0.05

Discussion

In this study, a five-dimensional structure of EAP L2 reading motivation has been identified. The results support claims (as often reported in the literature, e.g., Dhanapala, 2006) that L2 students read for both intrinsic and extrinsic reasons.

Five Dimensions of EAP L2 Reading Motivation

The five dimensions of L2 reading motivation identified in this study consist of one intrinsically-oriented and four extrinsically-oriented factors. The first factor, Intrinsic Motivation, reflects students' desires to read in the L2 because of the enjoyable experience it provides. Students with high Intrinsic Motivation read to fulfill their interests in the topic and are willing to engage in L2 reading, even in the face of challenge. Intrinsic Motivation differs from other factors in that it is independent of external reinforcements, such as grades, recognition, and sense of obligation.

The remaining four factors are all associated with students' desires to gain something through L2 reading, other than the sole sense of enjoyment. The second factor, Extrinsic Drive to Excel, taps students' desires to demonstrate excellence in L2 reading classrooms by outperforming peers and gaining recognition (e.g., positive comments) from peers and teachers. The third factor, Extrinsic Academic Compliance, represents students' willingness to read to complete assignments and to receive good grades. The fourth factor, Extrinsic Test Compliance, motivates students to read in the L2 to increase their scores on standardized tests (e.g., TOEFL); this factor also involves students' desires to read in the L2 to succeed in their future classes more generally. The last factor, Extrinsic Social Sharing, depicts students' desires to share L2 reading activities with peers, in and out of class.

Of the five factors identified, Intrinsic Motivation plays the largest role in characterizing L2 reading motivation of the current study participants. Intrinsic Motivation accounts for more than 50% of the variance explained by the five factors altogether. This finding supports the importance of intrinsically-oriented constructs in explaining L2 readers' motivation suggested in the literature. Across multiple L2 studies, intrinsically-oriented motivation dimensions have been identified (Kondo-Brown, 2009; Mori 2002; 2004, Takase, 2007). Judge's (2011) qualitative observation also suggests that seeking enjoyment in reading is a striking characteristic of successful L2 readers. As Grabe (2009) indicated, intrinsic motivation, therefore, may be a key construct to understand L2 reading motivation, not only with adult EAP students but with L2 students more generally.

Extrinsic Drive to Excel is by far the second strongest factor that characterizes EAP reading motivation. In the current literature, there seems to be no equivalent single factor among the L2 reading motivation constructs identified. However, the two concepts underlying Extrinsic Drive to Excel have both been noted in L2 reading motivation research. For instance, working with L1 reading motivation models (Wang & Guthrie, 2004; Wigfield & Guthrie, 1997), L2 researchers have found that L2 readers demonstrated somewhat strong motivation orientations toward both Competition and Recognition (e.g., Dhanapala, 2006; Tercanlioglu, 2001). The results of the current study concur with previous research findings that outperforming peers and receiving recognition from others are strong extrinsic motivators for L2 readers. Compared to Intrinsic Motivation and Extrinsic Drive to Excel, contributions of the remaining three factors are smaller, though all five factors play an important role in describing the study participants' motivation.

Stability of L2 Reading Motivation Factors

Results of the follow-up CFA analysis appear to provide evidence that supports the stability of the factors identified through the EFA. Of the three indices used to assess goodness of fit (i.e., CFI, RMSEA, and SRMR), two indicated that the five-factor model hypothesized with the data from 70% (approximate) of the students would fit well with the data from the remaining 30% (approximate) of the students. Note that the inconsistent results across the three indices might be due to the fact that—as reported in the Methods and Results section—student responses to a large number of the MREQ items were significantly skewed. This characteristic of the data might have impacted the results because the multiple likelihood estimation method used in this study assumes normality of the data.

Limitations of the Study

Results of this study are believed to be reasonably robust, considering its large sample size. As a survey-based study, however, the findings are limited as the data originated from students' self-reported evaluations of their L2 reading motivation only. Using a questionnaire to measure student motivation has been widely practiced in L2 research, but any questionnaire is vulnerable to social desirability bias (e.g., Dörnyei, 2010). Another limitation of the study is that there was no direct researcher oversight of instrument administration (except at one site), though instrument administrators at participating English language programs indicated that students experienced little trouble completing the questionnaire. Lastly, study participants included some students whose purpose for coming to the U.S. was improving English language proficiency in general rather than achieving academic success. The impact of these students' motivation orientations on the overall results of the study is unknown. It should be noted, though, that these students did voluntarily seek out further English language training in an academically oriented institute.

Conclusion

The present study provides evidence that adult EAP students' L2 reading motivation is comprised of both intrinsically and extrinsically oriented factors. This result supports the multidimensional nature of reading motivation suggested by previous research on L1 and L2 reading motivation. Considering the multidimensional nature of L2 reading motivation, paying attention to the orientation of students' motivation (*in what ways* students are motivated) appears to be as important as noting the intensity of their motivation (*how much* students are motivated). For instance, students who seem to be highly motivated when they compete with peers in L2 reading classes may, in fact, not be so motivated to read in L2 to acquire new knowledge. These students would benefit from extra teacher support in finding interesting reading topics for an extensive reading assignment or in working collaboratively with their peers in class. The current study contributes to developing a better understanding of various ways in which adult EAP readers are motivated to read.

Results of the present study also provide direction for further research on L2 reading motivation. The five factors identified in the study explain approximately 44% of the variance. This percentage seems reasonable, considering that in previous L2 reading motivation research with more homogenous student groups, variances accounted for by identified factors have reached 50 - 59% (e.g., Mori, 2002, 2004; Takase, 2007). Further research, however, is needed to uncover factors that have not been identified through the questionnaire used in this study. Lin et al. (2012), for instance, conceptualized a construct that represents students' desire to read in L2 to prepare them for future situations that can go beyond classroom settings (e.g., succeeding in one's career, obtaining information from technical materials, etc.). An extrinsic motive like this may indeed play an important role in shaping L2 students' reading motivation, especially with adults. Researchers may be able to gain further insights into such undiscovered factors through in-depth interviews with students or through motivation surveys with open-ended questions. With a more comprehensive range of factors underlying L2 readers' motivation, researchers are able to investigate the relationships between motivation and actual reading outcomes more

closely, a direction that future research should also take.

For both researchers and practitioners, the MREQ developed for this study could become a useful tool to assess L2 reading motivation. The instrument yielded a high reliability in the current study, with participants of a wide range of L2 proficiency levels (from *high beginning* to *advanced*). The questionnaire often required only 20 minutes of student time. Researchers, therefore, may find the instrument a practical tool to measure intrinsic and extrinsic motivation of adult EAP readers. Teachers can also benefit from the instrument. By administering the MREQ, teachers can gain insights into students' motivation orientations, which, in turn, provide them with an opportunity to adjust their classroom strategies and activities.

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About the Author

Reiko Komiyama is an assistant professor in the English Department at California State University, Sacramento, where she teaches for the MA TESOL program and the TESOL certificate programs for undergraduate and graduate students. Her areas of interest include L2 reading development, student motivation, and teacher training in ESL and EFL. E-mail: rkomiyama@csus.edu