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The Association between Secondary School Students' Ideal L2 Self, Ought to L2 Self, L2 Learning Experience, and L2 Intended Effort with Their Language Learning Styles

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Abstract

Purpose: Students' motivated behaviour, motivational factors and learning styles have been salient variables drawing many educational researchers' attention at least during last half a century. However, the relationships between them have not received sufficient amount of empirical research. Therefore, this study aimed at investigating the association of secondary school students' ideal L2 self, ought-to L2 self, L2 learning experience, and L2 intended effort (i.e. L2 motivated behaviour) with their language learning styles.

Methodology: Data were collected through closed-ended questionnaire items with 6-point Likert and rating scales regarding motivational factors and learning styles followed by some demographic items from 340 secondary school students sampled from Tehran, Iran.

Results: Through Spearman *rho* correlation by SPSS version 26, statistically significant associations were found between pupils' motivational factors and project orientation, group activity orientation, and individual activity orientation.

Conclusion: The current findings suggest that educational decision-makers as well as EFL teachers should accordingly include special educational materials, projects, and tasks compatible with learners' various learning styles and motivational factors.

Keywords: Motivational Self System, Project Orientation, Group Activity Orientation, Learning Styles

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Introduction

Motivational factors and learning styles of second/foreign language learners are two sets of variables extensively investigated by many researchers, both of which, however, are subjected to different conceptualization and definitions among scholars. Regarding L2 motivation, Gardner (1985) classifies L2 motivation into integrative and instrumental orientations. Deci and his associates (e.g. Deci & Ryan, 1985) introduced intrinsic and extrinsic motives. In his L2 Motivational Self System, Dörnyei (2009) proposed his tripartite L2 motivation variables as: ideal L2 self, ought-to L2 self and L2 learning experience. On the other hand, various dimensions have been introduced for learning styles as well. For instance, Dunn and Dunn (1999) incorporate 21 elements into their Learning Styles Model. Salimi and Huseynpur (2015) consider learning styles as a hyponym to various dimensions such as: perceptual styles, cognitive styles, and personality styles. However, some other scholars distinguish them from each other and limit learning styles to only one of the dimensions as an independent notion such as Reid's (1987) perceptual learning styles.

One of the areas in both general education and EFL field which has not received sufficient investigation is the probe into the relationship between language learning styles and motivational factors. As the related literature suggests, matching students' learning styles with teachers' teaching styles, techniques, and methodology result in higher achievements on the part of students. On the other hand, achievement is mutually interrelated with learners' motivational orientations as well. Therefore, investigating the relationship of students' motivation and learning styles is worthy, particularly in L2 field, because learning a new language is a demanding task for most of the learners and their success is bound to their motivation and the styles they prefer to learn through.

Although there are a little done to investigate the relationship between L2 motivation and L2 learning styles, the available empirical studies suggest different and sometimes contradictory findings in this respect. For instance, investigating the relationship between learning styles and motivation in general education, Shih and Gamons (2001) found that field-dependent students and field-independent students did not differ in their motivational factors. While, Tai (2013), who conducted a research on university students in Taiwan, revealed that participants' auditory, tactile, kinesthetic, and computer-assisted learning styles, with 38.9 % effect possibility, significantly correlated with their motivation towards learning English. Tsai (2012) reported positive correlations between learning styles and motivational factors in Taiwanese educational settings ($r = 0.363$, $p < 0.000$). Tsai argued that intrinsic motivation, integrative orientation, and instrumental orientation of the students were significantly correlated with all categories of learning styles; nevertheless, learning situation was not associated with learning styles. Doing research among first year diploma students at a vocational institute in Hong Kong, Wu (2010) reported that learners' language learning styles did correlate with their language motivation.

In Iranian context, there has been even more overlooking on research about Iranian secondary school pupils' motivation and learning styles. Therefore, to fill in the gap, the current study was conducted in order to find out whether there are any relationships between Iranian pupils' learning styles and L2 motivational factors. Besides, few number of studies, conducted in other parts of the world, have taken different sets of motivational factors and learning styles into their investigation. Thus, to the author's best knowledge, the current study is the first investigation in its kind to probe the relationship between L2 motivation and L2 learning styles in Iranian secondary school setting.

Motivation is inevitably a very important individual difference which contributes to the success of learners. Motivation is apparently, after aptitude, the second strongest predictor of success (Skehan, 1989) and "undoubtedly the most frequently used catch-all term for explaining the success or failure of virtually any complex task" (Brown, 2007, p. 168). Motivation, just like language learning styles, is a multidimensional construct; therefore, as Gardner (2010) remarks, it is impossible to give motivation a single definition.

Being probably the most popular model of L2 motivation in the recent years (Elsan et al., 2022b), Dörnyei's L2 Motivational Self System (Dörnyei, 2005, 2009) was opted as the theoretical framework for the current investigation. It is worth noting that ideal L2 self and out-to L2 self are two key sets of the self guides mostly conceptualized on Markus and Nurious (1986) and Higgins (1987, 1998) self theories which are in line with the new trend of self theories in personality psychology (Elsan et al., 2022a; Huseynpur et al., 2020). L2 Motivational Self System (L2MSS) consists of three components as:

(a) Ideal L2 Self: This component denotes the internal desires of the learner visioning an ideal image of themselves as a successful second/foreign language user in the future. Indeed, ideal L2 self obtains its motivating power from the discrepancy between the learner's current and actual self with their wished ideal L2-related self. An L2 learner with this type of motivation imagines a future status for himself/herself as a successful L2 user and probably imagines living in the L2 communities.
(b) Ought-to L2 Self: This is the second component theorised by Dörnyei (2005, 2009) based on self theories. Ought-to L2 self refers to the future vision imposed by significant or authoritative people in the learner's environment. In other words, it denotes the future self image that an L2 learner is forced or obliged to become in the future to meet others' expectations and/or avoid possible negative outcomes. Therefore, the obligations like becoming a successful L2 user which is imposed by parents or the requirement of passing an L2-related exam for instrumental purposes belongs to this type of motivational factor.
(c) L2 Learning Experience: As the third component of L2MSS, L2 learning experience represents the positive experience of being engaged in the process of language learning and possessing positive attitude towards L2 and L2 learning. According to Dörnyei (2009), the third component is related to the immediate L2 learning environment and experience such as the impact of the teacher, the curriculum, the peer group, and the successful achievement.

The study of learning styles has suffered several crucial problems and shortcomings in educational fields. The problems include controversial situations in defining, conceptualizing, categorizing, measuring, and interpreting the empirical findings. Although these definitions vary in terms of scope and depth (Tabanlıoğlu, 2003), they all imply the multidimensional characteristic of the learning styles (Salimi & Huseynpur, 2015). Regarding its multidimensional nature, learning styles can be defined as a wide range of interrelated variables including various dimensions such as: perceptual, cognitive, motivational, strategic, personality-related, and environmental learning styles. Learning styles depend on the ways individuals learn or prefer to learn new information and affect their learning and cognitive development. Nonetheless, the opted instrument in the current study is Learning Style Indicator (LSI) initially developed by Wintergerst and DeCapua (1999) which includes three scales namely Group Activity Orientation, Individual Activity Orientation, and Project Orientation. According to Wintergerst et al. (2003), these three learning styles have been developed from an exploratory factor analysis conducted on the questionnaire items of Reid's (1987) Perceptual Learning Styles Preference Questionnaire entailing four dimensions namely tactile, kinesthetic, visual, and auditory learning styles. In a series of studies Wintergerst, DeCapua, and other associates (e.g. DeCapua & Wintergerst, 2005; Wintergerst & DeCapua, 1999; Wintergerst et al. 2003; Wintergerst et al., 2001), items of Reid's (1987) instrument were not loaded by its original four perceptual dimension; in contrary, they were loaded by three different factors which were, based on the content analysis of the clustered items in each extracted factor, representing group oriented learning, individual oriented learning, and project oriented learning. These three learning styles are defined as:

(a) Group Activity Orientation (GAO): This style represents learners' preference of learning best when they work in pairs or in groups rather than learning in isolation.
(b) Individual Activity Orientation (IAO): This style refers to learners' preference to learn on their own when being in a learning setting rather than being involved in group activities with peers.
(c) Project Orientation: This style incorporates preference to learn practically through doing tasks and projects rather than merely studying or memorizing the educational texts.

Through studying the related literature on learning styles and motivation, it can be realized that some scholars have considered motivation as one of the factors or dimensions of learning styles construct, whereas some others have differentiated motivation from learning styles; however, they have remarked the relationship between them. For example, in Dunn and Dunn's (1999) learning-styles model, motivation is one of the emotional factors of learning styles. Coffield et al. (2004) remark that motivational styles just as the other constantly used styles theories including cognitive styles, teaching styles, and thinking styles, have been used interchangeably by some scholars to refer to learning styles. Whereas, some others distinguish them from one another; yet, argue close relationship among learning styles, motivation, and achievement. Shih and Gamon (2001) explain how Curry's taxonomy of learning styles relates to motivation:

The taxonomy of learning styles developed by Curry (1990) used the concepts of learning styles, student achievement, and motivation to explain the process of learning. Learning styles consist of a combination of motivation, engagement, and cognitive processing habits, which then influence the use of metacognitive skills such as situation analysis, self-pacing, and self-evaluation to produce a learning outcome. Curry's taxonomy (1990) suggested that motivation, learning styles, and student achievement are associated. (p. 12)

What is more, some scholars (e.g. Wu, 2010) have discussed the merits of identifying students' motivational characteristics and learning styles in order to design text books and other educational materials, and develop teaching methods and techniques, based on and in accordance to their learning styles and motivational factors for the purpose of enhancing their achievement in education. According to Rita Dunn (2003, cited in Coffield et al., 2004), the inability of schools and teachers to take account of learning styles preferences produces endemic low achievement and poor motivation and must be challenged by parents, professionals and researchers who understand the research base of the model. It translates that learning styles are related to learners' motivation and achievement, thus the relationship among them should be taken into consideration. This view is supported by Bagheri Masoudzade and Fatehi Rad (2021) findings reporting positive relationship between impulsive and reflective dimensions of personality-type learning styles of Iranian EFL learners with their achievement in internalizing English vocabulary and grammar.

Although rarely investigated, there are some empirical studies concerning the relationship between language learning styles. In this regard, Shih and Gamon (2001) revealed that field-dependent students and field-independent students of Zoology and Biology courses at college did not differ in their motivational factors; neither did they do in their attitudes toward web-based instruction. Tai (2013) conducted a research on university students in Taiwan in order to explore the relationship between a group of students' visual, auditory, kinesthetic, tactile, individual, group, and computer-assisted learning styles on the one hand, and their L2 learning motivation on the other hand. Measuring students' learning styles through Reid's (1987) Perceptual Learning Style Preference Questionnaire items, he reported that the participants' auditory, tactile, kinesthetic, and computer-assisted learning styles, with 38.9 % effect possibility, significantly correlated with their motivation towards learning English.

In another study in Taiwanese setting, Tsai (2012) investigated 731 Taiwanese undergraduate students including 243 from English and 488 students from non-English majors over their cognitive learning styles, motivation and strategy use in reading English. They were classified into two groups in accordance with their reading performance as skilled and less-skilled readers. Tsai reported significant positive correlation of learning styles with total motivation ($r = .363$, $p < .01$) and its components namely intrinsic motivation, integrative orientation, and instrumental orientation. Wu's (2010) study was another attempt for investigating the relationship between language learning styles and L2 motivation of 200 first year diploma students' at a vocational institute in Hong Kong. Wu used Reid's (1987) PLSPQ to collect information concerning the students' learning style preferences. In respect of their language motivation, another questionnaire containing items of integrative and instrumental orientation scales of Gardner's (1985) Attitude Motivation Test Battery (AMTB) was applied. Wu (2010) reported that learners' language learning styles correlated with their language motivation; however, the learners with an integrative orientation exhibited a greater variety of language learning styles than the learners with an instrumental orientation. Wu further reported that according to the findings, integrative and instrumental orientations were both highly correlated to the auditory style.

In another study, Srichanyachon (2012) investigated the association between leaning styles of 183 university students enrolled in a fundamental course of English as a foreign language in Bangkok University, Thailand. In this study, Srichanyachon elicited information concerning English learners' learning styles and motivation. She reported that there were positive correlations between EFL learners' motivation and learning styles at 0.01 level, suggesting that students with various learning styles were more likely to have higher motivation to learn English, whereas the other students with lower learning styles preferences reportedly had a lower EFL motivation (Srichanyachon, 2012).

Research question 1: Is there any association between English language learners' project orientations with their ideal L2 self, ought-to L2 self, L2 learning experience, and intended effort?

Research question 2: Is there any association between English language learners' group activity orientations with their ideal L2 self, ought-to L2 self, L2 learning experience, and intended effort?

Research question 3: Is there any association between English language learners' individual activity orientations with their ideal L2 self, ought-to L2 self, L2 learning experience, and intended effort?

Methodology

In the current study, the author investigated 340 male pupils of secondary schools from diverse socio-economic schools located in districts 1, 6, 10, 16, and 19 of Tehran, the capital city of Iran, Participants were from different social classes studying in different types of schools including public, semi-public and private schools. Their ages ranged from 13 to 18 among which 15 was the most frequent age (mode= 15).

To gather the data from the participant, a questionnaire including three different sections was used). The first section included items of the motivational factors adopted from Taguchi et al. (2009). Three motivational factors belonging to L2 Motivational Self System (Dörnyei, 2009): original items of the Persian version of ideal L2 self, ought to L2 self, L2 learning experience, and intended effort were adopted from Taguchi et al.'s (2009) questionnaire. Each of the four motivational factors entailed six items designed as rating or Likert type scales, and they were reliable in the current study just as they were in the original one. Please refer to Table 1 for more details on Cronbach's *alpha* values and items of the motivational variables used in the current study. More details on the psychometrics of the motivational scales are available in Taguchi et al. (2009), and Dörnyei and Ushioda (2011). The Persian version of the whole questionnaire including all items is available in Appendix.

Table 1. The Names, Items, and Reliability of the Motivational Scales (Questionnaire Part I)

Scales	Scale Items (Item numbers correspond the original study conducted by Taguchi et al., 2009)	Cronbach's *Alpha* in Taguchi et al. (2009)	Cronbach's *Alpha* in the current Study
Ideal L2 Self	9. I can imagine myself speaking English as if I were a native speaker of English. 17. I can imagine myself speaking English with international friends or colleagues. 25. Whenever I think of my future career, I imagine myself using English. 33. I can imagine myself studying in a university where all my courses are taught in English. 41. I can imagine myself writing English e-mails fluently. 51. I can imagine myself living abroad and using English effectively for communicating with the locals.	.79	.81
Ought-to L2 Self	1. I study English because close friends of mine think it is important. 10. If I fail to learn English, I'll be letting other people down. 18. I consider learning English important because the people I respect think that I should do it. 26. Studying English is important to me in order to gain the approval of my peers/teachers/family/boss. 34. Learning English is necessary because people surrounding me expect me to do so. 43. Studying English is important to me because other people will respect me more if I have a knowledge of English.	.75	.77

L2 Learning Experience	54. Do you like the atmosphere of my English classes? 59. Do you find learning English really interesting? 63. Do you think time passes faster while studying English? 67. Do you always look forward to English classes? 71. Would you like to have more English lessons at school? 75. Do you really enjoy learning English?	.82	.85
Intended Effort	8. I would like to spend lots of time studying English. 16. I am prepared to expend a lot of effort in learning English. 24. I would like to concentrate on studying English more than any other topic. 32. If an English course was offered in the future, I would like to take it. (45) (Mean = 5.28) 40. If my teacher would give the class an optional assignment, I would certainly volunteer to do it. 50. I would like to study English even if I were not required.	.79	.80

In the second section of the utilized questionnaire, the L2 learners' learning styles were measured using items adopted from Learning Styles Indicator (LSI) questionnaire (Wintergerst & DeCapua's, 1999; Wintergerst et al., 2003). LSI originally has 23 items categorized under three learning styles namely project orientation (PO), group activity orientation (GAO), and individual activity orientation (IAO). The original instrument was reported valid and reliable (Wintergerst et al., 2003). The Farsi version of these scales were previously translated, validated, and used by Huseynpur and his associates (e.g. Huseynpur, 2014; Huseynpur et al., 2015; Huseynpur & Sadeghoghli, 2015; Salimi & Huseynpur, 2015). They were reportedly translated into Farsi and were evaluated and confirmed by two expert translators of English to Farsi. Besides, the original Likert scales of the LSI were converted from four-point scales to six-point scales so as to have harmony with 6-pointed motivational scales. Table 2 indicates the items of each learning styles associated with their internal consistency values calculated through Cronbach's *alpha*: both in the current study and the original one.

Table 2. The Names, Items, and Reliability of the Learning Styles Scales (Questionnaire Part II)

Scales	Scale Items (Item numbers correspond the original study conducted by Wintergerst et al., 2003)	Cronbach's *Alpha* in the original study	Cronbach's *Alpha* in the current Study
Project orientation (PO)	LS2- I learn best in class when I can participate in related activities. LS13- When I do things in class, I learn better. LS20- I learn more when I can make something for a class project. LS23- I prefer to learn by doing something in class.	.69	.68
Group activity orientation	LS1- I enjoy working on an assignment with two or three classmates. LS11- In class, I learn best when I work with others. LS18- I prefer to study with others. LS21- I learn more when I study with a group.	.75	.81
Individual activity orientation	LS5- When I study alone, I remember things better. LS12- I learn more by reading textbooks than by listening to lectures. LS14- I prefer to work by myself. LS22- I learn better by reading than by listening to someone.	.57	.71

In the final section of the questionnaire, some items were added in order to gather the learners' demographic information such as age (How old are you?), school grade (What grades are you in: Grade 10, 11, or 12?), school type (Check your school type: State, Semi-Private, Private), and self-reported English level adopted from Taguchi et al. (2009) reading as:

English ability: Please rate your current overall proficiency in English by ticking one.

- ❑ Upper Intermediate level and over— Able to converse about general matters of daily life and topics of one's specialty and grasp the gist of lectures and broadcasts. Able to read high-level materials such as newspapers and write about personal ideas.
- ❑ Intermediate level — Able to converse about general matters of daily life. Able to read general materials related to daily life and write simple passages.
- ❑ Lower Intermediate level — Able to converse about familiar daily topics. Able to read materials about familiar everyday topics and write simple letters.
- ❑ Post-Beginner level — Able to hold a simple conversation such as greeting and introducing someone. Able to read simple materials and write a simple passage in elementary English.
- ❑ Beginner level — Able to give simple greetings using set words and phrases. Able to read simple sentences, grasp the gist of short passages, and to write a simple sentence in basic English.

The design of the present study is a quantitative survey research in which the data were collected through a self-reported questionnaire. The research is also a correlational study in which the relationships between motivational factors and learning styles have been investigated.

The author attended in person in secondary schools in Tehran, the capital city of Iran. Prior to attending classes, the aims and the procedure of the research were informed to the authorities of Tehran Education Administration and later to the headmasters, assistants, and teachers of the approached schools and accordingly their permissions were obtained to conduct the study. Because the participants were minor (under the age of 18) their consent were obtained; besides, their parents' consent for possible prospective research have already been obtained by the authorities prior to the current study by means of the application forms that the students and their parents were obliged to fill in and sign when enrolling for the current academic year. Teachers of the attended classes were also briefed about the aims and objectives of the research and the average time needed for the data collection. For keeping the class quiet, the teachers were requested not to leave the class while the students were completing the questionnaires. A brief explanation of why the study is being done and how the students are expected to contribute to it was given to the participants before data collection. Confidence was also given to them that nobody could detect their identity, since they were asked not to write their names on the sheets of questionnaires. The students were asked to fill in the questionnaires if they assented to do so. The participants were asked to raise their hands in case they had any enquiries or questions concerning the questionnaire items in order for the researcher to approach them and respond their questions personally aiming not to disturb the other students. After completing the questionnaires, the students were asked to check the items to make sure that they had not left any item unanswered. Finally, the author collected the sheets and then appreciated the students and the teachers for their kind cooperation before leaving the classrooms.

All the data were computer coded and analysed with Statistical Package for Social Sciences (SPSS) version 26. The major statistical procedures applied to the data were correlation-based analyses. Although the distribution of the scale scores were relatively normal, the non-parametric tests of Spearman Rank Order Correlation (*rho*) was opted because the nature of the ratings in the scales were ordinal rather than interval.

Results and Discussion

According to Dörnyei (2007), correlations of 0.3 to 0.5 can be interpreted meaningful and correlations of 0.6 and above indicates that the two variables, more or less, measure the same thing. However, Cohen (1988) proposes the effect sizes of coefficients in the range of .10 to .29 as small, .30 to .49 as medium, and .50 to 1.0 as strong ones. McGrath and Meyer (2006) proposed a less conservative view remarking that correlations between .10 to .239 are small, in the range of .240 to .369 are moderate and coefficients of .37 and above are strong. McGrath and Meyer's measure to interpret the correlational effect sizes appears to be more realistic; because, it is rarely possible to find higher correlations just the way as we find in laboratory researches in the field of experimental sciences. A main rationale for this position is that, unlike laboratory

researches, in social sciences it is not possible to control all intervening variables in the researches.
Based on the results displayed in Table 3, it can be concluded that the present data enjoyed relatively a normal distribution of the scores, since the skewness and kurtosis statistics were lower than +/- 1.0 except for the ideal L2 self which was only slightly over +/- 1.0 (-1.62 for Skewness and 1.202 for Kurtosis). Examining the histogram of the scores with normality curves, Normal Q-Q Plot, and Stem-and-leaf Plots for each variable indicated relatively normal distribution of the data. Nonetheless, the non-parametric tests of Spearman Rank Order Correlation (*rho*) was opted due to the ordinal nature of the ratings in the targeted variables.

Table 3. Descriptive Statistics; Testing Normality Assumption

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Individual Act. Ori.	340	1.00	6.00	3.7934	1.16564	1.359	-.163	.145	-.362	.288
Group Act. Ori.	340	1.00	6.00	3.7403	1.34658	1.813	-.229	.145	-.847	.288
Project Ori.	340	1.00	6.00	4.1511	1.17631	1.384	-.510	.145	-.099	.288
Intended Effort	340	1.00	6.00	4.2308	1.07571	1.157	-.682	.145	.086	.288
Ideal L2 Self	340	1.00	6.00	4.7004	1.10852	1.229	-1.161	.145	1.202	.288
Ought-to L2 Self	340	1.00	6.00	3.9575	1.11793	1.250	-.439	.145	-.437	.288
L2 Learning Exp.	340	1.00	6.00	4.1985	1.22138	1.492	-.704	.145	-.227	.288
Valid N (listwise)	340									

A Principal Component Analysis through Oblimin with Kaiser Normalization rotation has been carried out to underlie construct of the components of motivation and learning styles. The assumptions of sampling adequacy and lack of multicollinearity were met. As displayed in Table 4 the KMO index of .81 was higher than the criterion of .60. Thus, it can be concluded that the present sample size was adequate for the component analysis.

Table 4. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.810
Bartlett's Test of Sphericity	Approx. Chi-Square	744.847
	df	21
	Sig.	.000

The correlation matrix used to probe the underlying structure of the components of the two questionnaires should not suffer from multicollinearity – too high correlations among all variables. The Bartlett's chi-square of 744.85 was significant ($P < .01$). Thus, it can be concluded that the correlation matrix was appropriate for extracting the components. Through SPSS, two components were extracted which accounted for 64.53 percent of the total variance (as indicated in Table 5).

Table 5. Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.382	48.315	48.315	3.382	48.315	48.315	3.258
2	1.135	16.214	64.529	1.135	16.214	64.529	1.435
3	.853	12.190	76.719				
4	.607	8.671	85.390				
5	.429	6.132	91.522				
6	.376	5.366	96.888				
7	.218	3.112	100.000				

Note: Extraction Method: Principal Component Analysis.
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Besides, as displayed in Table 6, the five components of the motivation questionnaire have loaded on the first component which can be labeled as "motivation". The three scales of the learning styles also loaded on the second factor which could be named the "learning style" component.

Table 6. Rotated Component Matrix

	Component	
	1	2
Intended Effort	.870	
L2 Learning Experience	.852	
Ideal L2 Self	.805	
Ought-to L2 Self	.690	
Group Activity Orientation		-.809
Project Orientation		-.583
Individual Activity Orientation		.529

Note: Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 9 iterations.

Table 7 displays the Cronbach's *alpha* reliability indices for components of motivation and learning styles and the two questionnaires. Considering the low number of items in each scale, the reliability indices are acceptably indicative of internal consistencies of the scales of targeted variables.

Table 7. Reliability Statistics

	Cronbach's *Alpha*	N of Items
Ideal L2 Self	.808	6
Ough-to L2 Self	.774	6
L2 Learning Experience	.851	6
Intended Effort	.796	6
Project Orientation	.683	4
Group Activity Orientation	.746	4
Individual Activity Orientation	.573	4

Spearman Rank Order Correlation (*rho*) was run to probe any significant relationships between L2 motivation and learning styles scales. The results as indicated in Table 8 revealed that ideal L2 self had significant correlation with project orientation ($rho = .38$, $p < .01$) representing a strong effect size

interpreted due to McGrath and Meyer's (2006) criteria of correlational effect sizes. It also had significant but weak to moderate relationship with group orientation (*rho* = .22, $p < .01$). Ideal L2 self indicated a significant but weak relationship with individual orientation (*rho* = .12, $p < .05$).

Table 8. Spearman's *rho* Correlations; L2 Motivation with Learning Style

			Project Orientation	Group Activity Orientation	Individual Activity Orientation
Spearman's rho	Ideal L2 Self	Correlation Coefficient	.378**	.219**	.119*
		Sig. (2-tailed)	.000	.000	.045
		N	340	340	340
	Ought-to L2 Self	Correlation Coefficient	.321**	.262**	.154**
		Sig. (2-tailed)	.000	.000	.009
		N	340	340	340
	L2 Learning Experience	Correlation Coefficient	.428**	.281**	.176**
		Sig. (2-tailed)	.000	.000	.003
		N	340	340	340
	Intended Effort	Correlation Coefficient	.376**	.264**	.188**
		Sig. (2-tailed)	.000	.000	.001
		N	340	340	340

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Ought-to L2 self significantly revealed moderate correlations with: project orientation (*rho* = .32, $p < .01$) and group activity orientation (*rho* = .26, $p < .01$) However, it had weak yet significant relationship with individual activity orientation (*rho* = .15, $p < .01$). L2 learning experience indicated significant and strong correlation with project orientation (*rho* = .43, $p < .01$). It had significant and moderate association with group activity orientation (*rho* = .28, $p < .01$). While, it showed a weak correlation with individual orientation (*rho* = .18, $p < .01$).

Intended effort showed significant and strong correlation with project orientation (*rho* = .38, $p < .01$). It had significant moderate correlation with group orientation (*rho* = .26, $p < .01$) and significant but weak association with individual orientation (*rho* = .19, $p < .01$).

These findings indicate that there are significant correlations between all L2 learners' motivational factors and their learning styles; however, according to the results, the existing correlations ranged from weak to strong effect sizes. The strongest correlation was found between project orientation and L2 learning experience. In general, motivational factors indicated moderate to strong correlations with both project and group activity orientations but weak associations with individual activity orientation. The weakest correlation was found between individual learning style and ideal L2 self. The fact that project orientation and group activity styles better associate with motivational factors than individual activity does, seemingly suggests that language learning motivation is higher among those Iranian EFL learners who have more project and group activity orientations rather than those who prefer individual activity style in learning English as a foreign language.

As mentioned earlier, there are a very few number of empirical studies conducted on probing the relationships amongst the variables investigated in the current study. What makes the circumstance much worse is that the effects of these variables on each other have not been adequately discussed in the literature. Ultimately, the lack of both theoretical discussions and empirical findings hurdles the comparability of our findings with the related literature. Furthermore, motivation and learning styles

have large number of dimensions and subcategories which were hardly possible to be investigated all together in previous studies. Thus, the limited number of researches which were ever done in this respect had only covered some of the dimensions or subcategories of learning styles and/or motivation.

Revealing the weak to strong relationship between Iranian EFL learners' L2 motivation and learning styles preferences, the present findings contradict findings in Shih and Gamon' (2001) study in which no relationship was found between students' motivation and learning styles. The different findings may be due to the fact that in Shih and Gamon's study only field-dependent and field-independent students' motivation were compared. Whereas, in the current study, three different dimensions of learning styles namely project activity orientation, group learning, and individual learning had been subjected to research. In contrary, the present findings are in line with findings of Tai (2013) reporting significant correlation of Taiwanese participants' auditory, tactile, kinesthetic, and computer-assisted learning styles with their motivation. Similarly, the current findings are also in line with those of Tsai (2012) who reported a moderate correlation ($r = 0.363$, $p < .01$) between motivation and learning styles.

Conclusion

Regarding the current findings, EFL learners' project orientations, individual learning orientations, and group learning orientations were found to be correlated with secondary students' L2 motivational factors. However, project activity orientation indicated the highest correlation to L2 motivational factors and individual activity learning style disclosed the weakest correlation allowing the group activity in the middle between them. Therefore, it can be concluded that EFL learners who prefer to learn through doing tasks and projects (project orientation) and those who opt group activities while learning English as a foreign language are more likely to be motivated to learn English than those who prefer learning in isolation (individual activity orientation). Besides, based upon these results, language teachers and syllabus writers are advised to include more project-oriented language learning tasks and practical learning-orientated activities in order to meet the strongest correlated L2 learning style, that was project orientation. Moreover, it is also recommended to enrich English books and teaching materials with adequate group activity tasks. However, this does not mean that individually-oriented students can be neglected. Indeed, they should be given the opportunity to learn alone and do individual-oriented learning activities as they prefer to be alone, but not to be engaged with other peers. Considering the findings of Huseynpur and Sadeghoghli (2015), who reported strong association between Iranian EFL learners' project and group activity orientations ($r = .48$, $p < .01$) but no significant association between their individual activity orientation and project orientation, individually oriented learners can be assigned to do L2-related learning projects in order to enhance their L2 learning motivation. Because, being individually-oriented does not necessarily translate as having no project orientation style, regardless of the positive strong association between group activity with project orientation and negative association between individual and group activity orientation ($r = -.50$, $p < .01$) reported by Huseynpur and Sadeghoghli (2015). EFL learners may also be encouraged to participate in group activities just when they felt confident to do so.

English teachers are also recommended to match their teaching styles and strategies with the above-mentioned three types of learning styles in a way that L2 learners' any type of learning styles could be addressed and fed by appropriate and compatible materials and activities in a way that the learners who prefer any types of learning styles could be engaged with activities suitable for their preferences. In this case, no students would think of being a fish out of water, and as a result, the L2 education would get closer to the expected educational justice. The findings also indicated that not only do Iranian EFL learners have various learning styles but they also have various L2 motives; thus, L2 teachers are expected to adjust their teaching styles with their students' different types of L2 motives such as ideal L2 self, ought-to L2 self, L2 learning experience. In order to increase L2 teaching efficiency, these different motivational types should also be taken into consideration when developing L2-related contents and curriculum.

There were some limitations and delimitations available in this study such as limiting the participants to male secondary school students who were studying English as a compulsory subject matter. In the future, other researchers may address students from different age groups, genders, geographical location, and ethnic groups. Furthermore, students who study foreign languages other than English such as Turkish,

Spanish, German, and French may also be targeted in future studies. For future studies, researchers may also aim to investigate the relationship between other motivation and learning styles factors which have not been targeted in the current study. For instance, factors such as family influence, intrinsic motivation, extrinsic motivation, instrumentality; and other dimensions of learning styles such as cognitive learning styles and personality learning styles may also be included in forthcoming researches.

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