Identity Processing Styles as Predictors of L2 Identity Dimensions: The Interplay of Sociocognitive and Sociolinguistic Inclinations

Hadi Heidari
PhD Candidate of Applied Linguistics, Imam Khomeini International University, Qazvin, Iran

Ali Malmir¹
Assistant Professor of Applied Linguistics, Imam Khomeini International University, Qazvin, Iran

Abbas Ali Zarei
Associate Professor of Applied Linguistics, Imam Khomeini International University, Qazvin, Iran

Abstract
Because of the importance of the second or foreign language (L2) identity and its role in L2 development on one hand and the significance of the identity processing styles, examining the under-researched relationship between these two dimensions of identity is a highly valuable for the SLA literature. Therefore, the current study investigated how identity processing styles were related to various dimensions of L2 identity among L2 learners. Following a purposive snowball sampling, 1,018 Iranian EFL learners took part in this study. A validated Multidimensional L2 Identity Questionnaire (MLIQ) and Identity Processing Style Inventory (IPSI-4) were filled out to explore the predictive power of the learners’ identity processing styles (informational, normative, and diffuse-avoidant styles) at the personal level on seven dichotomized L2 identity dimensions. The data analysis using multiple regression showed that identity processing styles significantly predicted learners’ L2 identity dimensions. The normative style was a strong predictor of aspects of the L2 identity, the diffuse-avoidant style was a moderate predictor of four L2 identity dimensions and the informational style was a weak predictor of two different dimensions of L2 identity. Building

¹ Corresponding author: malmir@hum.ikiu.ac.ir
Identity Processing Styles as upon these socio-cognitive identity styles, EFL learners can utilize the maximum information coming from different potential sources to develop their L2 identities more systematically.

**Keywords:** Diffuse-avoidant style, Identity Dimensions, Identity Processing Styles, Informational Style, Normative Style, Language Identity

*Received on September 27, 2022*

*Accepted on January 20, 2023*

1. **Introduction**

Throughout history and at the hands of different groups and parties, as an indicator of the inclusion of people in groups with the same linguistic identities or their exclusion from those specific societies, their language identities are considered to be indexes to distinguish friends from enemies, neighbors from aliens, and different speech communities. Reportedly, individual and social identities coexist together within individuals, and it is language features that bind such individual and social identities (Tabouret-Keller, 1998). The linkage between personal and social sides through the medium of language has been the subject of different studies in the identity domain (Benson et al., 2013; Coker, 2014; Harbon & Fielding, 2022; Shin, 2018). However, recent definitions of identity seek to define the term through not only the ever-present social aspects within specific time and space but also the person’s internal cognitive processes which give essence to such world relationships and the future world possibilities (Norton, 2013; Wu & Forbes, 2022). Such bilateral connection and relevance of the cognizant self to the world is also witnessed in van Lier’s (2007) definition of identity through the cycles of perception, action, and interpretation. Moreover, language identity has been recently informed from multiple dimensions to include some complex, subjective (Tabouret-Keller, 1998), and changing variables like homogeneity (Ng, 2022; Van Leeuwen, 2009), overtness,
inclusion, and dynamicity of the identity (Edwards, 2009; Xu, 2009) as opposed to traditional, stable, and demographic ones to highlight more personal, social and psychological efforts in shaping language identities to bring about unique experiences of change.

Language is given a privileged space in gradual identity progress and construction through which we can extrapolate the identity positions assumed by individuals during the process of negotiation of meaning and instructed learning (Amireault, 2011; Mitchell et al., 2020; Przymus et al., 2022). In fact, such interaction and negotiation of meaning is at the heart of the defining and shaping features of the language identity which leads the individuals as learners (Norton, 2000; Rashidi & Mansurian, 2015; Rezaei & Bahrami, 2019) or teachers (Derakhshan et al., 2020; Gholamshahi et al., 2021; Khany & Malekzadeh, 2015; Pishghadam & Sadeghi, 2011; Pishghadam et al., 2016; Wu & Forbes, 2022) to acquire new roles and perspectives to actively construct their new dynamic identity or what Solé (2007) calls identity markers. Due to the interrelationship between the different socio-cognitive aspects of learners' identities and that of the target group members, their identities are more or less drawn into the target language and culture and becomes affected by L2 identity throughout their lives. Amireault (2019) asserts that this process makes the identities confronted, negotiated and compared to be adjusted through linguistic and cultural experiences as the social interactions. That is why learning a new language can be regarded as learning a new identity.

The learners’ cognitive abilities and their reflexive alertness in using semiotic characteristics of languages empower them to express and construct their informed voices and attitudes through an individualistic lifestyle (Van Leeuwen, 2009). The current body of literature on language identity shows that the social aspect of the process in combination with different realms and
Identity Processing Styles as domains is given due attention (Benson et al., 2013; Hicks, 2020; Shin, 2018; Zablonski, 2021); however, the presence of underlying psychological aspects and what cannot be superficially understood from such processes is something that needs to be pondered more elaborately. Block (2013) criticizes the current body of L2 identity research with its mainstream in social sciences, taking a decidedly social view of identity and ignoring the psychological angle. Hence, he argues in favor of poststructuralist thinking linked to work in psychology to add flavor to the trend. Such a superficial approach to identity studies focusing merely on the social side of the studies at the expense of more in-depth psychological models (Bendle, 2002) is called for immediate action in the studies of different researchers and scholars (Block, 2006, 2013; Granger, 2004; Heidari et al., 2022; Tabouret-Keller, 1998). We need some comprehensive studies which not only determine the position of the L2 identity theory within the large domain of other related theories and approaches in Applied Linguistics, but they should also give us a better idea of the role of learners’ active positions on forming different aspects on L2 identity continuum. Accordingly, the present study was conducted to fill this research gap in the existing literature on L2 identity research by scrutinizing the contribution of identity processing styles to the various dimensions of L2 identity. Besides, as far as the knowledge of the researchers of the present paper extends, to date, no previous study has been conducted in this regard. Filling this research gap can broaden our insights into the nature of L2 identity both at the psycholinguistic and sociolinguistic levels and can have some practical significance for the EFL practitioners

2. Literature Review

The literature review section provides a synopsis of the existing literature including the theoretical framework and the empirical background regarding the two important variables of this study, i.e., the identity processing styles
and L2 identity dimensions. The final section of this study outlines the previous empirical studies and puts the current study within their available research gap in the literature.

2.1 Identity Processing Styles
The process of identity formation is characterized by a dynamic and fluid process and multidimensional and multilayered aspects and different factors contribute to identity formation (Erikson, 1968). Such a multilayered identity formation process is linked to different internal and external aspects of human development; for example, the result of the work done by Steffens et al. (2015) suggest that possessing multiple social identities results in higher cognitive flexibility and enhanced creativity.

As the main instrument extensively used in different fields to broaden the knowledge of underlying social and cognitive processes is the socio-cognitive identity processing style inventory developed and validated by Berzonsky (1989). It provides a socio-cognitive model of constructing and revising identity conceptualized as a cognitive structure or self-theory of sense of identity. Learners utilize their cognitive abilities and structures during identity issues and conflicts through individual’s exploration of alternatives, determining goals and forming a unified identity within socially and experientially informed context (Berzonsky, 1989, 1990, 2004). Hereby, an individual’s cognitive strategies are brought into the model during his identity construction through his problem solving and decision-making (Berzonsky, 1989, 2003, 2011). This questionnaire was used to probe three main identity dimensions known as informational, normative, and diffuse-avoidant styles to account for the identity choices of the individuals in different situations.

Drawing upon the fundamental work of Berzonsky (1989), Zimmermann et al. (2012) validated two identity inventories and scales known as ISI-3 and
Identity Processing Styles as U-MICS to explore identity styles of the learners in the French setting and the way they led to identity formation. The results provided through Confirmatory Factor Analyses (CFA) confirmed three main factors for the ISI-3 and U-MICS as well as the significant correlation among the main instruments.

2.2 L2 Identity

The study on language and identity has been informed and developed by the advancements of findings in social sciences and theories (Norton & De Costa, 2017; Przymus et al., 2022). Benson et al. (2013) believed that a comprehensive L2 identity-related study should be multidimensional to include sociopragmatic and interactional competence development, linguistic self-concept through which one can assume a reflexive identity including emotional factors and self-efficacy in L2 setting, and L2 based personal competence development which underscores the individual’s active role of independence and agency. Generally, based on their own subjective experience, individuals build their initial identity and membership around at least two main groups of ethnic groups and language communities (Ashmore et al., 2004; DerSarkissian et al., 2022; Trofimovich et al., 2013).

To better understand the process of identity development of nonnative English-speaking teacher candidates, Swearingen (2019) conducted a meta-analysis synthesizing 17 studies within TESOL programs. Four main themes were gathered based on the categorization of findings to improve our understanding of the quality of language teachers’ identity development: 1) native/non-native speakerism, 2) racial-gendered identities, 3) academic identity conflicts, 4) the role of emotion. It was concluded that to build balanced English teacher identities, ELT programs should demystify the native speaker fallacy and they should reinforce non-native teachers through legitimizing local teaching practices and narrative reflections.
In their ethnographic research, Dutton and Rushton (2021) gave power to the agency and active roles of the individuals in forming their language identity using some cultural and translilingual activities. They created connected linguistic and cultural tasks by acknowledging learners’ identities and voices and strengthen students’ connectedness with their cultural backgrounds. Other than bringing back the power to the students by providing the students with opportunities to construct their own identity versions by acknowledging their diverse backgrounds, the findings stood against the transmission pedagogy (Freire, 1975) where the teacher transfers his wisdom to his passive students.

Diaz and Shahri (2020) explored the effect and semiotic role of affect entwined stance-taking on institutional identity and its synchronic and diachronic emergence. The data came from interviews in institutional contexts in a longitudinal ethnographic study where the consistent patterns of affective practice were highlighted and the key role was given to the speakers who have control over creating affected stances to manifest their actual aspects of identity. In this study, the researchers take advantage of the practice of connotative inversion where each speaker’s evaluation of the same discursive item is shifted over time. This kind of inversion is evident over the speaker’s performance of salient aspects of identity practices.

2.3 Previous Empirical Studies

Razmjoo (2010) was among the first Iranian researchers to study how language identity aspects, as well as demographic information, can contribute to Iranian EFL learners’ achievement. The results demonstrated no significant relationship between the identity aspects and language achievement in the Iranian context. Moreover, it was found that only gender could predict some aspects of individuals’ identities.
Higgins’ (2014) study was innovative in that she studied the formation of identity among language learners through intersecting spaces which were defined as flows of some ideological issues involving people and places. The results showed that learners were immensely influenced by different ideological identity options and the mediascape entered their identity zones. The transnational and cosmopolitan issues, as well as mediascape, were found influential in shaping the identities in the ideational scape of the educational setting. Such additional learning and use of languages through different intersecting spaces showed the deep impression of those aspects which seemed to be trivial in identity acquisition of the learners.

Gao et al. (2015) conducted a mixed-methods longitudinal study through combining psychological and social perspectives in five Chinese universities to identify how self-identity developmental patterns can be related to EFL learning. The findings of the study showed that learners developed positive and prominent levels of self-confidence change during the 4 years with a steady increase in subtractive change. However, the pattern and pace of such changes for different learners were different at different stages with much complexities and ambivalence in the relations of the changes. Steffens et al. (2015) also found evidence of a linear correlation between multiple social identities and mental flexibility to conclude that learners with different social identities take advantage of more creativity.

The way language is practiced and performed based on the underlying intentions of L2 users is determining in the level of integration and identification into the foreign language. In an important study, Amireault (2019) evaluated the reflections and different perspectives of Chinese adult learners of French about their integration and cultural patterns in Canada. Other than the manifestation of some novel in-between identities, the results showed that learners generally had a utilitarian relationship with the French
language to integrate into the linguistic and professional identity. It was also found that learners are best integrated into L2 identity when they learn and use the language beyond the formal education contexts.

Drawing upon the cited gap in L2 identity knowledge, the current study will utilize the most recent form of the socio-cognitive inventory (IPSI-4, Berzonsky, 2011) as well as a researcher-made Multidimensional Language Identity Questionnaire (MLIQ) to answer the following research questions:

1. How well do various socio-cognitive identity processing styles contribute to Iranian EFL learners' language identity dimensions? How much variance in language identity dimensions can be explained by learners’ L2 social identity?

2. Which dimensions of socio-cognitive identity processing styles are significant predictors of Iranian EFL learners’ language identity dimensions?

3. Methodology

Through a correlational ex post facto design, the current study sought to investigate the relationship between EFL learners’ the psycho-cognitive identity processing styles at the personal level and L2 identity dimensions at the sociolinguistic level.

3.1 Participants

English language learners in Iran from different proficiency levels, ethnic groups, ages, and sociocultural and linguistic backgrounds took part in the study. The study followed a snowball, purposive sampling where 1,018 subjects were non-randomly selected. Because the present study required a large sample to be representative of Iranian EFL learners at the nationwide level, the snow ball sampling purposive was used to recruit as many participants as possible. The participant selection was carried out by the assistance of some university professors, institute instructors, and PhD and
MA students through personal communication or via online platforms and social media. The exclusion criteria were the self-reported intermediate or other higher proficiency levels, at least 2 years of language learning experience, and full completion of the two instruments. Among them, 603 learners were females (59.2%) and 415 were males (40.8%). They fell into three categories regarding their ages: 509 (50%) as young learners (18-30); 315 (30.9%) as middle group (31-42); and 194 (19.1%) as older learners (more than 42 years). As with their language learning experience (LLE), 303 participants had low LLE (under 5 years), 334 had middle one (between 5-10 years), and 381 participants reported to have high (more than 10 years) experience in learning English as a foreign language.

3.2 Instruments
This study consisted of two instruments that helped us better understand the language identity dimensions and their relevance to the socio-cognitive style of the English language learners in Iran. The details of each of these instruments will be outlined as follows:

3.2.1 Multidimensional L2 Identity Questionnaire (MLIQ)
The Multidimensional L2 Identity Questionnaire (MLIQ) including 55 items measuring seven dichotomous L2 identity dimensions developed and validated by Heidari et al. (2020) were used in this study. According to the developers, the items of the questionnaire were chosen based on the thorough study of the L2 identity field, the existing corpus of studies and validated questionnaires, and also suggestions of 5 experts in L2 identity studies with publications in high-ranked journals (e.g. Higgins, 2014; Norton, 2016; Rezaei, & Bahrami, 2019). After the initial piloting of the questionnaire followed by two revision procedures of the items based on the recommendations of the expert panels, the redundant items were curtailed and then, componential factor analysis (CFC) was used to validate and evaluate the items and the total model. The application of CFA confirmed the
loading of 55 questionnaire items on the seven dichotomous L2 components with α values beyond .70. These components included: a) dynamicity vs. stability (7 items), b) transitivity vs. intransitivity (8 items), c) convergent-orientation vs. divergent-orientation (10 items), d) homogeneity vs. heterogeneity (6 items), e) active vs. passive (8 items), f) inclusion vs. exclusion (8 items), and g) overtness vs. coverture (7 items). The subjects filled out the items on a Likert-Scale ranging from Strongly Disagree to Strongly Agree. The final questionnaire showed the reliability of .80 with 30 participants in the pilot study and its reliability turned out to be .84 in the current study (see appendix A).

3.2.2 Socio-Cognitive Identity Processing Styles Inventory (IPSI-4)

To determine Iranian EFL learners’ psychological identity processing styles (informational, normative, and diffuse-avoidant styles) at the personal level, the Identity Processing Style Inventory (IPSI-4) was implemented which was initially developed and validated by Berzonsky (2011). It provides rational and automatic reasoning in unfolding the underlying psychological processes through self-regulation and (re)formulation of an identity sense and can be used as a socio-cognitive model of identity conceptualized as a cognitive structure or self-theory. The inventory is a five-point Likert-scale questionnaire consisting of 33 items for four types of identity processing styles: a) diffuse-avoidant-style scale with 9 items; b) normative-style scale with 8 items; c) the informational-style scale with 7 items; and d) the commitment-style scale with 9 items. The data coming from the commitment section was used to justify the commitment of the subjects in filling out the questionnaires and they were not included in the final data analysis and conclusion. The inventory was validated with reliability indices above .72 in the studies conducted by Berzonsky (1989, 1990, 2003, 2008, 2011). It showed a Cronbach's Alpha Coefficient of .76 as an index of overall
Identity Processing Styles as reliability in the current study. It took about 20 to 25 minutes to be filled out by the participants.

3.3 Data Collection Procedure
After the selection of the participants using non-random purposive snowball sampling, in the first phase of the data collection procedure, the validated questionnaires were distributed both in printed forms and online versions (uploaded to some online websites like Google Forms, www.surveymonkey.com and also academic virtual TEFL groups). Online questionnaires were also handed through different applications and messengers in social media (WhatsApp, Telegram, Instagram, Shad, etc.) during the winter term of 2020. In the second phase, Berzonsky’s (2011) IPSI-4 inventory was filled out by the participants as aforementioned for the first instrument. Due to the nationwide nature of the study and the number of participants in the study, the data collection procedure took several months.

4. Results
The multiple regression assumptions including normality, linearity, multicollinearity, homoscedasticity, outlier presence, and the independence of residuals were checked and no violations were observed. Due to the word limits of this journal, the descriptive statistics, figures, and tables have not been included in the main file. The application of the Kolmogorov-Smirnov test (N= 1018 > 50) revealed that the scores in all three psychological identity processing styles were normal (p > .05 in all cases). Moreover, the normality of the involved distributions was vindicated using the Normal Probability Plot (P-P) of regression standardized residuals. The absence of the outliers was verified and through the scatterplot of standardized residuals and no case was detected as cases with standardized residuals more than 3.3 or less than -3.3 (Tabachnick & Fidell, 2013). Additionally, the Mahalanobis and Cook’s distances were acceptable based on the criteria set by Tabachnick and Fidell (2013). The assumption of multicollinearity was also confirmed based on the values of Tolerance (Ts < .1 in all cases) and VIF (VIFs > 10). The calculated
Tolerance values for dimensions of the independent variable in the study ranged from .815 to .989 and the obtained VIF values ranged from 1.01 to 1.22.

The availability of the aforementioned conditions provided the legitimacy to run a multiple regression. The model summary for the multiple regression (using the Enter method) between different identity processing styles and the seven aspects of L2 identity that were measured in this study, are presented in Table 1.

Table 1

**Models Summaries for the Relationship between IPSI-4 and SLID**

<table>
<thead>
<tr>
<th>Models for Identity Types</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. dynamic vs. static</td>
<td>.248</td>
<td>.062</td>
<td>.059</td>
<td>.558</td>
</tr>
<tr>
<td>2. transitive vs. intransitive</td>
<td>.209</td>
<td>.044</td>
<td>.041</td>
<td>.550</td>
</tr>
<tr>
<td>3. convergent vs. divergent</td>
<td>.298</td>
<td>.089</td>
<td>.086</td>
<td>.482</td>
</tr>
<tr>
<td>4. homogeneous vs. heterogeneous</td>
<td>.195</td>
<td>.038</td>
<td>.035</td>
<td>.447</td>
</tr>
<tr>
<td>5. active vs. passive</td>
<td>.036</td>
<td>.001</td>
<td>.002</td>
<td>.490</td>
</tr>
<tr>
<td>6. inclusive vs. exclusive</td>
<td>.301</td>
<td>.090</td>
<td>.088</td>
<td>.472</td>
</tr>
<tr>
<td>7. overt vs. covert</td>
<td>.166</td>
<td>.027</td>
<td>.025</td>
<td>.485</td>
</tr>
</tbody>
</table>

According to the seven constructed models, identity processing styles could explain the following percentages of the variation in learners’ scores on the SLID: 5.9% for the dynamic vs. static ($R = .248, R^2 = .059$), 4.1% for the transitive vs. intransitive ($R = .209, R^2 = .041$), 8.6 for the convergent vs. divergent ($R = .298, R^2 = .086$), 3.5% for the homogeneous vs. heterogeneous ($R = .195, R^2 = .035$), only .2% for the active vs. passive ($R = .036, R^2 = .002$), 8.8% for the inclusion vs. exclusion ($R = .301, R^2 = .088$), and about 2.5% for the overt vs. covert ($R = .166, R^2 = .025$) dimensions of the L2 identity.

The data summary provided in Table 2 confirmed that ANOVA tests for the produced model significantly predicted learners’ scores on different dimensions of L2 Identity based on their scores on different identity processing styles as follows: dynamic vs. static ($F(3, 1014) = 22.16, p < .05$); transitive vs. intransitive ($F(3, 1014) = 15.37, p < .05$); convergent vs. divergent ($F(3, 1014) = 32.89, p < .05$); homogeneous vs. heterogeneous ($F(3, 1014) = 13.42, p < .05$); inclusion vs. exclusion ($F(3, 1014) = 33.62, p < .05$); overt vs. covert identity dimension ($F(3, 1014)$...
Identity Processing Styles as active vs. passive dimension (F(3, 1014) = .445, p = .721 > .05) was the only L2 identity dimension which was not significantly predicted by the model based on the scores on identity processing styles.

Table 2
ANOVA Tests for the Models of the Relationship between IPSI-4 and SLID

<table>
<thead>
<tr>
<th>Models for Identity Types</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamic vs. static</td>
<td>20.74</td>
<td>(3, 1014)</td>
<td>6.91</td>
<td>22.16</td>
<td>.000</td>
</tr>
<tr>
<td>transitive vs. intransitive</td>
<td>13.97</td>
<td>(3, 1014)</td>
<td>4.66</td>
<td>15.37</td>
<td>.000</td>
</tr>
<tr>
<td>convergent vs. divergent</td>
<td>22.94</td>
<td>(3, 1014)</td>
<td>7.64</td>
<td>32.89</td>
<td>.000</td>
</tr>
<tr>
<td>Homogeneous/heterogeneous</td>
<td>8.05</td>
<td>(3, 1014)</td>
<td>2.68</td>
<td>13.42</td>
<td>.000</td>
</tr>
<tr>
<td>active vs. passive</td>
<td>.32</td>
<td>(3, 1014)</td>
<td>.10</td>
<td>.44</td>
<td>.721</td>
</tr>
<tr>
<td>inclusive vs. exclusive</td>
<td>22.54</td>
<td>(3, 1014)</td>
<td>7.51</td>
<td>33.62</td>
<td>.000</td>
</tr>
<tr>
<td>overt vs. covert</td>
<td>6.75</td>
<td>(3, 1014)</td>
<td>2.25</td>
<td>9.55</td>
<td>.000</td>
</tr>
</tbody>
</table>

In order to answer question two, the standardized beta coefficients were obtained to determine the exact contribution of participants’ different identity processing styles to EFL learners' different aspects of L2 identity, as presented in Table 3.

Table 3
Beta Coefficients for the Relationship between IPSI-4 and SLID

<table>
<thead>
<tr>
<th>Models for Identity Types</th>
<th>Statistic</th>
<th>Informational</th>
<th>Normative</th>
<th>Diffuse-avoidant</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamic vs. static</td>
<td>Beta</td>
<td>-.099</td>
<td>-.189</td>
<td>.023</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-2.930</td>
<td>-5.625</td>
<td>.768</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.003</td>
<td>.000</td>
<td>.443</td>
</tr>
<tr>
<td>transitive vs. intransitive</td>
<td>Beta</td>
<td>-.017</td>
<td>-.201</td>
<td>-.008</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-.513</td>
<td>-5.914</td>
<td>-.258</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.608</td>
<td>.000</td>
<td>.796</td>
</tr>
<tr>
<td>convergent vs. divergent</td>
<td>Beta</td>
<td>-.026</td>
<td>-.266</td>
<td>.102</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-.793</td>
<td>-8.047</td>
<td>3.370</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.428</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td>homogeneous vs. heterogeneous</td>
<td>Beta</td>
<td>.077</td>
<td>-.094</td>
<td>.163</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>2.268</td>
<td>-2.771</td>
<td>5.275</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.024</td>
<td>.006</td>
<td>.000</td>
</tr>
<tr>
<td>inclusive vs. exclusive</td>
<td>Beta</td>
<td>-.049</td>
<td>-.250</td>
<td>.121</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-1.474</td>
<td>-7.568</td>
<td>4.031</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.141</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>active vs. passive</td>
<td>Beta</td>
<td>-.031</td>
<td>.018</td>
<td>.026</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-.885</td>
<td>.533</td>
<td>.812</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.376</td>
<td>.594</td>
<td>.417</td>
</tr>
<tr>
<td>overt vs. covert</td>
<td>Beta</td>
<td>.060</td>
<td>-.122</td>
<td>.116</td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>1.751</td>
<td>-3.563</td>
<td>3.718</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.080</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>
As shown in Table 3, the normative aspect of psychological identity processing style was a significant predictor of L2 identity dimensions ($p < .05$) except for the active vs. passive dimension ($\beta = .018$, $t = .533$, $p = .594 > .05$). Among the other L2 identity dimensions, the normative processing style was a strong predictor of convergent vs. divergent ($\beta = .266$, $t = 8.047$, $p < .05$); inclusion vs. exclusion ($\beta = .250$, $t = 7.568$, $p < .05$); and transitive vs. intransitive dimension ($\beta = .201$, $t = 5.914$, $p < .05$). It was also a significantly moderate contributor to dynamic vs. static ($\beta = .189$, $t = 5.625$, $p = .008 < .05$) and overt vs. covert ($\beta = .122$, $t = 3.563$, $p < .05$) dimensions of L2 identity. However, normative psychological processing style was a weak albeit significant predictor of homogeneous vs. heterogeneous ($\beta = .094$, $t = 2.771$, $p = .006 < .05$) L2 identity dimension of Iranian EFL learners.

The informational aspect of psychological identity processing style was a relatively weak albeit significant predictor of just two L2 identity aspects: dynamic vs. static ($\beta = .099$, $t = 2.930$, $p = .003 < .05$) and homogeneous vs. heterogeneous ($\beta = .077$, $t = 2.268$, $p = .024 < .05$) dimensions. The last psychological identity processing style known as diffuse-avoidant dimension also was a significant predictor of homogeneous vs. heterogeneous ($\beta = .163$, $t = 5.275$, $p < .05$); inclusion vs. exclusion ($\beta = .121$, $t = 4.031$, $p < .05$); overt vs. covert ($\beta = .116$, $t = 3.718$, $p < .05$); and convergent vs. divergent ($\beta = .102$, $t = 3.370$, $p = .001 < .05$) aspects of SLID. The inspection of the beta value for these aspects revealed that the predictor effect was moderate.

5. Discussion

The study findings showed that the socio-cognitive identity processing styles could significantly predict variations in learners’ scores on the inclusion vs. exclusion, convergent vs. divergent, dynamic vs. static, transitive vs. intransitive, homogeneous vs. heterogeneous, and overt vs. covert dimensions of the L2 identity; however, they could not significantly
Identity Processing Styles as contribute to the active vs. passive dimension of the learners’ L2 identity. Furthermore, normative processing style was found to be a strong predictor of convergent vs. divergent, inclusion vs. exclusion, and transitive vs. intransitive dimensions; a significantly moderate contributor to dynamic vs. static and overt vs. covert dimensions; and a weak albeit significant predictor of homogeneous vs. heterogeneous aspects of SLID of Iranian EFL learners. Some researchers have argued that individuals with normative processing styles are conscientious and purposeful, ordered and systematic, and they automatically depend upon other authoritative sources of power to be directed (Berzonsky, 2004, 2011; Berzonsky et al., 2013; Berzonsky & Kuk, 2000; Smits et al., 2008). It can be the reason why this style can best predict the convergent vs. divergent dimension of L2 identity which is related to the level of dependence vs. independence to L2 groups and the extent to which learners tend to be members of other L2 communities. Giles (1980) asserted that convergence and divergence tendencies are more evident in the identity of the participants who try to reach social integration through adopting the speech style of the L2 community members. As normative processing style learners tend to follow the standards, they may feel more connected with those prototypical L2 identity features that represent the foreign language identity clearly. This may be reason for the strong contribution of the normative processing style with the second L2 identity dimension known as inclusion vs. exclusion. In fact, this L2 dimension specifies the extent of inclination of an L2 learner to be included into the foreign language or culture as a near-native member or his tendency contrasted with his tendency to show his original identity and his connection with the signs of his L1 identity and culture.

Though learners with normative processing style may have internalized the rule-governed L2 identity to be loyal to the appropriateness of different
aspects of L2 language, Smith (2006) maintained that learners are sensitive to specific information coming from their environment to improve their knowledge of inclusion vs. exclusion. If they are appraised with the L2 language and culture positively, they may find better reasons to be included into the foreign culture and adopt standard identity features to reach higher levels of convergence. Nevertheless, learners who confront different identity conflicts at the way of their L2 identity development (e.g. ideological and cultural issues), may not develop balanced and harmonized L2 identity dimensions and their language identity statues may remain underdeveloped. Transitive vs. intransitive L2 identity dimension as the last L2 identity dimension strongly predicted by normative processing style shows the extent to which an L2 identity is well-developed and symmetrical (Rips, 2011). These learners’ conscientious and orderliness and to lead them to perfection can contribute to their all-out development of their identities and more harmonized interrelationship between their L1 and L2 identities. Overall, normative processing style can provide the learners with abilities to utilize their cognitive powers to better understand the interrelationship between their L1 and L2 identities through their knowledge of the L2 system and culture and their sensitivity to the nuances in cultural and ideological issues to develop more balanced and harmonized L2 identities.

The diffuse-avoidant dimension was ranked as the second significant predictor of second language identity dimensions which moderately contributed to convergent vs. divergent, inclusion vs. exclusion, overt vs. covert, and homogeneous vs. heterogeneous aspects of SLID. Diffuse-avoidant identity style learners are known for their low self-control and procrastination and they try to save time to find the solution to the identity problem by not facing it. Unlike normative and informational processors with more consolidated goals and commitments, they lack personal commitment
Identity Processing Styles as
and life purpose (Berzonsky, 2004) and situational influences greatly affect them (Berzonsky & Ferrari, 2009). As we stated earlier, learners’ inclination to become a member of the L2 community or alienation towards them through convergence vs. divergence and their determination to be included vs. excluded socially and culturally within the L2 community is an outcome of their exposition to the foreign language and culture. Furthermore, their homogeneous vs. heterogeneous dimension of L2 identity, which enables them to make their L1 and L2 identities interconnected and unified, is another important aspect of the L2 language learners who may fall on different places on the continuum. Basically, language learning is associated with alienation and foreign language learning is no exception (McNamara, 2009). Hereupon, second language identity formation is generally linked to such processes as alienation from the initial self and transition from self-reliance to social awareness (Morgan & Clarke, 2011; Ng, 2022). Overt vs. covert identity aspect as the last significantly predicted dimension shows the individual’s superficial identity formation evident in his behaviors, thoughts, and deeds or his covert accommodation of the language and culture with no superficial belonging (DerSarkissian et al., 2022; Honey, 1998).

The significant contribution of the diffuse-avoidant processing style on the abovementioned L2 identity dimensions may clarify that learners with diffuse-avoidant processing styles who are reluctant with their abilities and tend to postpone facing their identity conflicts, may be provided with opportunities to form their identities more implicitly and indirectly. Therefore, they may alertly procrastinate their obligation to acquire L2 language and system and try to reconsider their L2 identity formation by saving time through more inductive and internalized processes which needs further evaluation and as uncommitted learners, their identities are found to
follow a diffusion status (Berzonsky et al., 2011; Berzonsky & Cieciuch, 2016; Berzonsky & Papini, 2015).

The informational aspect of psychological identity processing style was a relatively weak albeit significant predictor of only dynamic vs. static and homogeneous vs. heterogeneous aspects of SLID. Informational identity processing style helps learners to actively learn based on their conscientiousness, problem-solving, and openness to experience to test hypotheses and accept information by reasoning and self-reflection (Berzonsky, 2004; Luyckx et al., 2007; Smits et al., 2008). This style’s significant contribution to dynamic vs. static L2 identity dimension can be justified by knowing that the level of learners’ dynamic vs. static identity dimension shows how far their identity has developed from a raw and fixed state to a more fluid and dynamic position on the continuum (Edwards, 2009). Kuo and Margalit (2012) refer to the dynamic nature of L2 identity put forward by situationist theorists where learners can consciously think of the different identity types that can be formed based on the different stimuli that may affect the identity of the individuals. As the second contribution of the informational processing style, homogeneous vs. heterogeneous aspects of SLID specifies the subjective positions to make connections between different identities to make them a unified whole or develop heterogeneous sets of internal identities (Tabouret-Keller, 1998; Wu & Forbes, 2022).

Learners with different L2 identity aspects fall on different positions on the continuum. Informational processing style enables learners to consciously apply their reasoning and problem solving to make internal connections between their identities and to improve their L1 and L2 identities in an organized, rational, and dynamic manner (Zablonski, 2021). The informational style makes the learners able to actively ponder on the status of their identities and implement different strategies to acquire the L2
Identity Processing Styles as knowledge through problem-solving and hypothesis testing. This openness to experience and learning by doing evident in informational processing style as compared to normative processing style may result in less obligation to follow rule-governed strategies to learn the language systematically and be convinced to more standardized L2 usage of productive and receptive skills. Moreover, informational style learners are more affiliated with inner group attributes and identities (Berzonsky, 1994; Berzonsky et al., 2003). For learners with informational processing styles, there is no single way leading to elevated L2 identities and they may curiously resort to different target language varieties and information coming from different sources to develop their version of the truth. However, language learning is a systematic and rule-based process that sometimes needs extensive engagement and practice with the language to be flourished.

In line with the findings of the current study, Heidari et al. (2022) reported that transitive vs. intransitive, convergent vs. divergent, homogeneous vs. heterogeneous, and active vs. passive dimensions were significantly strong predictors of L2 national identity among Iranian EFL learners. Moreover, Malmir and Derakhshan (2020) found that normative and diffuse-avoidant identity processing styles could significantly contribute to the L2 pragmatic competence of the EFL learners and moderately predict their pragmatic knowledge and production. Likewise, despite its significance, the predictive power of informational style was revealed to be weak in this study. The weak contribution of the informational processing style indicated by these studies which is confirmed by the current study can be attributed to the fact that learners with this style are at the stage of shaping their personal identity commitments or they have reached the stage of the moratorium in their identity commitment (e.g., Berzonsky, 1989, 1990; Berzonsky et al., 2011; Berzonsky & Cieciuch, 2016; Berzonsky & Kuk, 2000; Berzonsky &
Papini, 2015) and they have shaped some solid identity status which cannot be easily restructured. In his study on emotional engagement in EFL learners, Al-Amri (2020) found that the normative processing style had a positive correlation with social support in EFL classrooms coming from the peers which led to the more emotional engagement of these learners. It was also shown that the normative identity style EFL learners’ behavior was more intricately predicted than the other styles because of that positive emotional engagement and social support coming from peers. The researcher believed that when learners lacked this support from peers, their EFL learning became challenging to go beyond the frame of reference provided by their instructors to internalize the L2 rules and adopt the necessary strategies for them.

6. Conclusion and Implications
This study came to some important conclusions. First, the socio-cognitive processing styles could significantly contribute to almost all dimensions of the SLID. Second, the normative processing style was a strong predictor of more L2 identity dimensions than the diffuse-avoidant identity processing style. Finally, the informational identity processing style was a relatively weak albeit significant predictor of only two L2 identity dimensions. The information coming from the different socio-cognitive processing styles and their underlying effect on the explanation of the different L2 identity dimensions can be used to determine the role of underlying psychological processes on language identity. The instructors can also gain knowledge about learners’ processing styles and the suitability of different strategies for better development of different L2 identity dimensions in different settings. EFL learners can utilize findings of study coming from different social and cognitive perspectives and the multidimensional systems of thoughts and behaviors which nurture the languages and cultures of the world to develop L2 identities more systematically and grasp the dynamic and hybrid nature of
Identity Processing Styles as the languages and an overall picture of the language identity with all integral factors.

Other than the data supporting the social and cognitive tenets of the study coming from the works of Erikson (1968), Norton (1995, 1997, 2016), Block (2006, 2013), Berzonsky (1990, 2003, 2008) in collaboration with some other researchers, the rigorous factor analysis gave the developed identity questionnaire the legitimacy to be used for future L2 identity research. The ultimate robust model can be used to check the identity dimensions of the individuals in different social, ethnic, linguistic, and national settings in order to determine the level of L2 identity of the different people and to see how their social and cognitive processes can influence their language identities. Although the findings approve that learners with different levels of processing styles utilize different degrees of mentality to develop their L2 identity dimensions, the findings need to be replicated in other ESL and EFL contexts due to the weak contribution of some of these socio-cognitive processing styles on different L2 identity dimensions. The role of important IDs highlighted by Berzonsky and Kinney (2008) should be also brought into the model to see how the role of different processing styles is mediated by such important factors.

References


Berzonsky, M. D., Soenens, B., Luyckx, K., Smits, I., Papini, D. R., & Goossens, L. (2013). Development and validation of the revised Identity
Identity Processing Styles as


Teaching English Language, Vol. 17, No. 1 295

Heidari et al.


### Appendix A

**Heidari et al.’s (2022) Multidimensional L2 Identity Questionnaire (MLIQ)**

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I feel more belonging to my first language than the foreign language.</td>
</tr>
<tr>
<td>2.</td>
<td>I would like to reveal my first language identity in my foreign language speaking.</td>
</tr>
<tr>
<td>3.</td>
<td>I love my first language more than the foreign language.</td>
</tr>
<tr>
<td>4.</td>
<td>I’d like to be multilingual and I love my first language and the foreign language to the same extent.</td>
</tr>
<tr>
<td>5.</td>
<td>Due to interference problems, I like to learn just one language at a time.</td>
</tr>
<tr>
<td>6.</td>
<td>When I started learning English, I felt I like it, but later, I lost my interest.</td>
</tr>
<tr>
<td>7.</td>
<td>When I started learning English, I liked to go and live in English-speaking countries, but I lost my interest.</td>
</tr>
<tr>
<td>8.</td>
<td>I'd like to adjust my speech style to that of the target group.</td>
</tr>
<tr>
<td>9.</td>
<td>I intend to sound like my native country’s people when I face foreigners.</td>
</tr>
<tr>
<td>10.</td>
<td>I'd like to integrate as a member of the L2 community.</td>
</tr>
<tr>
<td>11.</td>
<td>For me, association with L2 members is more important than differing points.</td>
</tr>
<tr>
<td>12.</td>
<td>When I make use of the L2, I continuously monitor and repair my speech by referring to the dictionaries and grammar books.</td>
</tr>
<tr>
<td>13.</td>
<td>Regardless of the differences between me and the L2 speakers, we can have lots in common to speak about.</td>
</tr>
<tr>
<td>14.</td>
<td>I feel that I cannot become successful in a foreign country even if I have the best situation.</td>
</tr>
<tr>
<td>15.</td>
<td>One’s homeland is the best place to be flourished.</td>
</tr>
<tr>
<td>16.</td>
<td>I've always liked to go and live in English-speaking countries.</td>
</tr>
<tr>
<td>17.</td>
<td>I like to be in contact with native speakers.</td>
</tr>
<tr>
<td>18.</td>
<td>I see new languages and identities as complementary like new pieces of a puzzle.</td>
</tr>
<tr>
<td>19.</td>
<td>When I learn a foreign language, my first language interferes with it and makes learning hard.</td>
</tr>
<tr>
<td>20.</td>
<td>I have different attitudes and needs, so I should learn different languages.</td>
</tr>
<tr>
<td>21.</td>
<td>If I have difficulty in getting understood I switch between the languages to resolve it.</td>
</tr>
<tr>
<td>22.</td>
<td>I think all languages have common sources and they can be learnt in similar ways.</td>
</tr>
<tr>
<td>23.</td>
<td>I learnt most of the L2 vocabulary and structures by referring to their L1 equivalents.</td>
</tr>
</tbody>
</table>
Identity Processing Styles as

24. I'd like to be a member of the target group.
25. I like the culture and language of foreign people.
27. I believe that no languages can replace my L1.
28. There are lots of differences between my L1 and L2.
29. I feel I can easily cope with foreigners.
30. I'd like to speak with them when I visit foreigners.
31. I believe we are right in making propaganda against the imperialist countries and nations.
32. Since I started English, I've tried to update my knowledge from English-speaking countries and cultures.
33. I prefer to be disguised within the foreign speakers.
34. When I see my L1 community have an accent in their L2, I disapprove of them.
36. If somebody tells something in the L2 which I do not understand, I'd rather not ask for repetition.
37. I'd like to change my lifestyle to that of the L2 members.
38. I like to speak with my friends in L2.
39. I love L2 to watch movies and listen to music.
40. When I learn an L2, I like to adopt its culture.
41. I would like to imitate the behavior of the L2 members to be more like them.
42. Though L2 is important, my favorite language is my L1.
43. I prefer to speak with my community members in my mother tongue even in the target language setting.
44. When I answer my phone, I'd like to talk in my first language even in the target language setting.
45. I become embarrassed when I sound like non-natives of the target language.
46. In meetings or classes in L2, I would like to be quiet to save face.
47. If I have different viewpoints with foreign language members in an L2 setting, I don't talk about them.
48. I actively participate in English conferences and workshops.
49. I have always been learning English in language teaching institutes.
50. When I learn English, I do not need to refer to the dictionary all the time.
51. I'm learning different skills like listening, speaking, reading, and writing in a predetermined order.
52. To learn English, you do not need to learn equivalent words in the target language.
53. English language should be acquired within the society with no regard to grammar.
54. To enhance my English learning potential, I am an active member of different virtual English learning groups.
55. I do not believe in advertisements like “English while sleeping” or “English in a few months”.

Scoring Guideline for MLIQ:
Items 1-7: dynamic vs. static L2 identity
Items 8-17: convergent vs. divergent L2 identity
Items 18-25: homogenous vs. heterogeneous L2 identity
Items 24-32: inclusive vs. exclusive L2 identity
Items 33-39: overt vs. covert L2 identity
Items 40-47: transitive vs. intransitive L2 identity
Items 48-55: active vs. passive L2 identity

2023 by the authors. Licensee Journal of Teaching English Language (TEL). This is an open access article distributed under the terms and conditions of the Creative Commons Attribution–NonCommercial 4.0 International (CC BY-NC 4.0) license. (http://creativecommons.org/licenses/by-nc/4.0).