Journal of English language Teaching and Learning
University of Tabriz
Volume 12, Issue 26, (Fall & Winter 2020)
Pages 361-376

Role of Individual Difference Variables in EFL Teachers' Immunity Development*

Marzieh Ahmadi**
Ph.D Student, Department of English Language and Literature, Faculty of Foreign Languages, University of Isfahann
Mohammad Amiryousefi (Corresponding Auther)***
Associate professor, Department of English Language and Literature, Faculty of Foreign Languages, University of Isfahan, Isfahan, Iran.
Akbar Hesabi****
Associate professor, Department of English Language and Literature, Faculty of Foreign Languages, University of Isfahan, Isfahan, Iran.

Abstract
Language teacher immunity has recently attracted the attention of the scholars interested in teacher psychology. Following the previous line of research in teacher psychology, the present study explored the immunity types among 260 Iranian EFL teachers working in schools and language institutes. Drawing on Hiver's (2017) categorization, this study found that the participants were classified into productively and maladaptively immunized teachers through cluster analysis. It was also found that gender played a significant role, and female participants were more productively immunized than men. Regarding the role of teaching experience, it was found that EFL teachers' immunity fluctuated in the late stages of their practice to a more fossilized, negative one. Regarding age differences, the results also suggested different immunity types among the participants of different age groups. The results implied that teacher education programs should enhance EFL teachers' understanding of language teacher immunity as an important factor in their effectiveness and well-being as well as students' achievement.

Keywords: Language Teacher Immunity, Productive Immunity, Maladaptive Immunity.

* Received: 2021/03/05 Accepted: 2021/03/16
**Email: Nazaninahmadi703@Yahoo.com
***Email: M.Amiryousefi@Yahoo.com
****Email: a.hesabi@fgn.ui.ac.ir

1. Introduction

Teachers' critical role in every society underscores the significance of understanding their psychological states. Teachers' psychological states and well-being seem to contribute to their own effectiveness and their students' achievement (Mercer, 2018). However, there are some challenges in teaching contexts that may put English as a Foreign Language (henceforth EFL) teachers' well-being at risk. These challenges have led some scholars to put forward the issue of Language Teacher Immunity (henceforth LTI) in the second and foreign language teaching contexts. LTI is defined as a coping mechanism with which English as a Foreign Language (henceforth EFL) teachers armor themselves towards the unavoidable professional challenges of their profession (Hiver & Dörnyei, 2017). This protective shield emerges to either survive or thrive EFL teachers and act as an asset in understanding language teachers' motivation, pattern, sense of self, and identity (Hiver, 2015).

Compared with the biological immunity, LTI is a double-edged sword, turning either to the adaptive immunity resulting in boosting teachers' quality both professionally and psychologically or to the maladaptive immunity that does not suit the teaching profession and produces a negative defense mechanism that debilitates teacher efficacy in the long run (Hiver & Dörnyei, 2017). The developed immunity is associated with teachers' psychological, emotional, and cognitive functioning in the instructional setting (Hiver, 2017). Therefore, it is of paramount importance to probe into EFL teachers' immunity development as the teaching profession is in crisis, and teacher attrition threatens the educational system (Rahimpour et al., 2020).

Based on the Complexity Theory (CT), immunity development happens through a self-organized process in which teachers as the dynamic systems reconfigure their internal structure in reaction to situation-specific perturbations to adapt to, change, and evolve in the professional context (Hiver, 2015). In CT view, the interrelationship among the elements comprising the system is of high importance, and the differences in the systems' conditions result in different pathways

that consequently turn to various outcomes (Dörnyei, Henry, & MacIntyre, 2014). Considering the fact that EFL teachers' immunity development is related to such factors as their experience (Noughabi et al., 2020), their individual differences, and the teaching context (Hiver, 2017), it seems critical to examine their individual differences in immunity development.

In the context of Iran, research on LTI has mostly examined the global immunity types among EFL teachers and their trajectories to end up in that immunity type. Attempts were also made to find the predictive factors in immunity (Rahimpour et al., 2020), the triggers of LTI (Rahmati et al., 2019), and the association between immunity and other teachers' characteristics like engagement, emotions, and autonomy (Noughabi et al., 2020). However, more investigation is needed to find the immunity type among Iranian EFL teachers due to the inadequacy of depth and breadth of the previous research examining the factors fluctuating immunity development (Haseli Songhori et al., 2018, 2020). Moreover, few studies (Maghsoudi, 2020) have been conducted to investigate the role of individual differences in EFL teachers' immunity development. Therefore, the present study aims to find the dominant type of immunity among Iranian EFL teachers with regard to their demographic variables, namely gender, experience, and age. Specifically, this study is an attempt to fill the gap in the existing literature on LTI in Iran and is imperative to answer the following questions:

1. What is the dominant immunity type among Iranian EFL teachers?
2. What is the relationship between immunity and Iranian EFL teachers' age, gender, and teaching experience?

2. Review of the literature

Language Teacher Immunity (LTI) was first proposed in Hiver' (2015) exploratory work to find ways of maximizing teachers' well-being and quality. LTI is a concept that metaphorically is juxtaposed to physiological immunity—a concept in medical science. It emerges dynamically as a situated, teaching specific protective system to guard

teachers against situation-specific hassles of teaching context. Its function is to guarantee language teachers' survival facing the accrued experiences of professional crisis. Immunity development occurs through a four-stage self-organized process. The outcome is double-natured; teachers may turn out to develop a productive, safeguarding type that ameliorates their functioning or a maladaptive, counterproductive type that deteriorates their professional efficacy.

Previous work on LTI explored four global types of productively immunized, maladaptively immunized, immunocompromized, and partially immunized EFL teachers (Hiver, 2015). Hiver (2017) expanded the typology in a Retrodictive Qualitative Modeling study and explored the typical archetypes across the continuum of LTI. Moreover, he found the association between immunity and teachers' psychological, emotional, and cognitive operating. Nevertheless, the upcoming research mostly focused on the two first types namely, productively immunized and maladaptively immunized (Haseli Songhori, 2018) and their link with possible selves and motivation (Ordem, 2017). In the EFL teaching context of Iran, Haseli Songhori et al. (2018) reported that most of their study's participants suffered from maladaptive immunity, low levels of motivation, and high burnout levels.

More elaborate investigation of the novel concept of LTI and exploring the triggers that dislodged EFL teachers from their equilibrious state and initiated the formation of immunity can be found in the works of some researchers including Maghsoudi (2020), Pouromid & Amerian, (2018) and Rahmati et al. (2019). An attempt was also made to find the predictors of LTI, the results of which revealed that teachers' autonomy, emotions, and engagement had strong power in immunity establishment (Noughabi et al., 2020).

As LTI gradually emerges through the accrued experience in instructional setting (Hiver, 2017) and there is always the threat of growing the counterproductive immunity (Hiver & Dörnyei, 2017), examining the role of teaching experience in immunity development becomes essential. Besides, EFL teachers perceive challenges

differently, and gender and age differences may contribute to teachers' different immunity types as well. As such, the present study is an attempt to find the two global immunity types among Iranian EFL teachers with regard to their demographic variables of age, gender, and teaching experience.

3. The study

This quantitative study was conducted in Iran's primary EFL teaching contexts, i. e. high schools and language institutes. The researchers used a close-ended questionnaire to gather data on participants' demographic information and their immunity development in EFL teaching settings of Isfahan, Iran.

3. 1. Sampling and Procedure

This study included 260 Iranian EFL teachers (males 33.1% and females 66.9%) who were chosen through convenient sampling. They worked in schools and language institutes in Iran, Isfahan. Their teaching experience ranged from 1 to 58 years, and their age ranged from 19 to 83 years. The data were collected in the Summer and Fall semesters, 2019. Participation in this study was quite voluntary.

The participants were assured of the data's confidentiality, and those who agreed to participate in the study were instructed to complete the questionnaire. The EFL teachers were asked first to complete the first part of the questionnaire devoted to their demographic information. Then, they were asked to answer the questionnaire items choosing a score from 1 to 6 on a Likert scale. One of the researchers was present at the time of questionnaire completion to answer participants' questions if there was any. Due to the shared L1 of all the participants and in order to reduce the measurement error, the participants were offered the Persian-translated version of the questionnaire. The questionnaire contained both positive and negative statements; therefore, the negative statements' responses were reversely coded in the analysis.

3. 2. Instrumentation

The data was collected through the Language Teacher Immunity Questionnaire (Hiver, 2017). The instrument comprised 39 items and seven subscales: teaching self-efficacy (e.g., "If I really try hard, I can get through to even the most difficult or unmotivated students"), burnout (e.g., "At school, I feel burned out from my work"), resilience (e.g., "I can get through difficult times because I've experienced difficulty before"), attitudes toward teaching (e.g., "I enjoy working as a teacher because it brings me pleasure"), openness to change (e.g., "As a teacher, I prefer the familiar to the unknown"), classroom affectivity (e.g., "At school or in the classroom I often feel upset"), and coping (e.g., "When problems arise at work, I accept what has happened and learn to live with it"). Participants reported their agreement on the items on a 6-point Likert scale ranging from 1 (*strongly agree*) to 6 (*strongly disagree*). The subscales showed acceptable levels of reliability estimates, namely, teaching self-efficacy (.866), burnout (.78), resilience (.727), attitudes toward teaching (.886), openness to change (.814), classroom affectivity (.869), and coping (.745), respectively.

3. 3. The validity and reliability of the instruments used in the present study

To check the scale's validity, the researchers translated the questionnaire into Persian and then, back-translated it into English to study the degree of their equivalence. The researchers then asked three experts in the English teaching field to examine the last version of the questionnaire's content validity. After receiving their comments, the content validity of the questionnaire was confirmed. The researchers calculated the Cronbach Alpha (α =.76) of the questionnaire to ensure its reliability.

4. Results

To answer the research questions, the researchers entered the data gathered from the completed questionnaires into SPSS version 26. A two-step cluster analysis was conducted to ascertain the prevailing immunity type among the EFL teachers. This analysis is useful for finding natural groupings of variables or cases. It works well with

continuous and categorical variables and can analyze large data files. The two-step clustering procedure, as the name insinuates, includes two discrete stages. In the first stage, original cases are categorized into pre-clusters. The pre-clustering goal is to reduce the matrix's size, including distances between all potential pairs of cases (Norusis, 2011). In the second step, which is called clustering, the pre-clusters are clustered using a hierarchical clustering algorithm. The hierarchical formation of clusters lets the researchers explore various solutions with different numbers of clusters (Norusis, 2007). This stage generates a range of solutions, which is subsequently reduced to the best number of clusters based on Schwarz's Bayesian information criterion (BIC). Outliers can also be detected and screened out in the algorithm (Norusis, 2011). In this analysis, unless specifically overridden by the researchers, the clustering algorithm automatically identifies the number of clusters within a cluster solution (Tkaczynski et al., 2010). Thus, if the attributes of groups are not specified a priori, two-step cluster analysis provides a workable solution for determining how many groups (clusters) might be within the data. Two-step cluster analysis also helps the researchers identify each item's importance in the cluster solution and how it could be statistically different amongst cluster post-analysis. It can be of great importance when determining how relevant a particular variable is to the total solution (Tkaczynski et al., 2015).

In the current study, attitude toward teaching, resilience, affectivity, efficacy, and openness to change were classified as clustering variables. To confirm the validity of differences between the clusters, teacher burnout and coping were considered criterion variables. Based on Schwarz's Bayesian Information Criterion (BIC), 954.19 and 812.59 were gained for cluster 1 and cluster 2, respectively and the highest log-likelihood distance measure (ratio of distance measures) was 2.86. The Cluster Sizes view shows the frequency of each cluster. As shown in Figure 1, all the records were classified under two clusters. 66.2.8% (172) of the records were assigned to the first cluster, and 33.8% (88)

to the second.

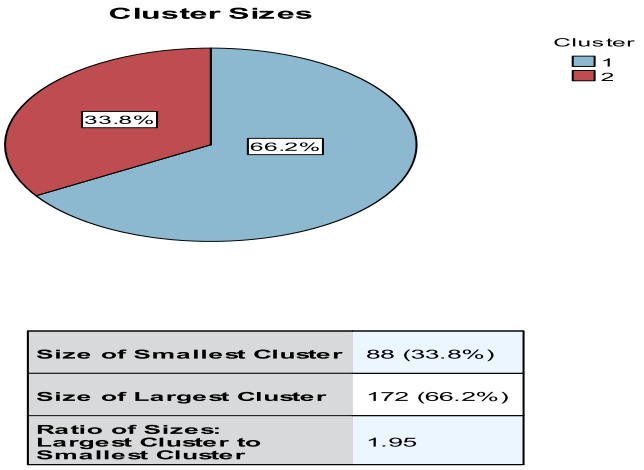

Figure 1. The sizes of the smallest and the largest clusters

Table 1 provides the means and standard deviations of the five clustering variables in the two clusters. Univariate main effects were also conducted to validate the final two cluster solutions (see Table 1).

Table 1

Comparison of means, standard deviations, and univariate main effects of clustering variables (N=260)

	Cluster 1 (N=172)		Cluster 2 (N=88)			
Scales	M	SD	M	SD	F	η^2
Attitude	25.40	3.67	17.48	4.97	211.27	.45
Resilience	24.78	2.55	20.16	3.20	160.47	.38
Affectivity	30.99	2.80	25.99	4.01	137.28	.35

Efficacy		35.01	3.55	30.09	4.24
97.42	.27				
Openness		23.82	4.56	21.41	4.50
16.39	.06				

According to Norusis (2011), in case of using Schwarz's Bayesian Information (BIC) Criterion for statistical inference, for cluster analysis to be validated, the silhouette measure of cohesion and separation should be at or above the required level of 0.0 (1.0 being the highest). This phase examins the relationship of the variables between and within clusters. A score above 0.0 would confirm that the between-cluster and within-cluster distances are valid among different variables (Norusis, 2011). It is more salubrious if the silhouette measure of cohesion and separation stands beyond the score of 0.2. In this study, the silhouette measure was well beyond 0.2, indicating a fair separation distance between the two clusters 1 and 2 (Figure 2).

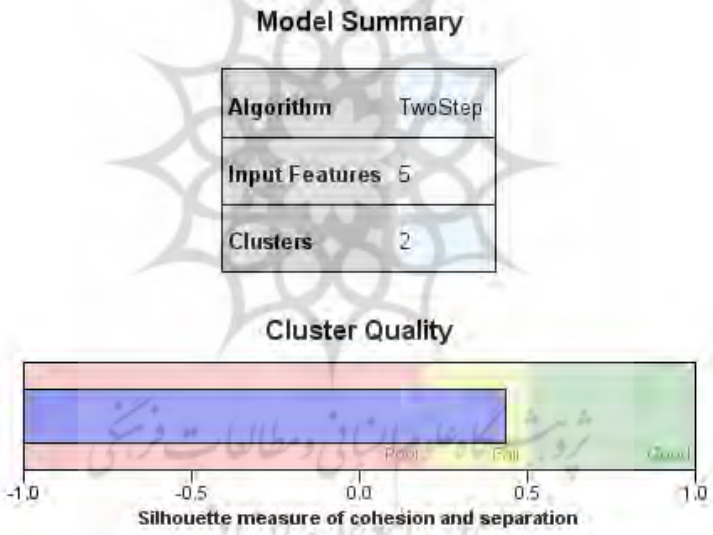

Figure 2. Silhouette Measure

Table 2 shows the means and standard deviations of burnout and coping as criterion variables. Their univariate main effects were also estimated for cluster membership of clusters 1 and 2. A multinominal logistic regression was also conducted to examine the predictive

strength of the criteria on cluster membership. The findings revealed a good fit (-2 log-likelihood = 154.45, χ^2 =136.55, df = 38, p < 001). These measures collectively substantiate cluster-analytical results and approve the final two-cluster solution as the best way of grouping the participants.

Table 2

Comparison of means, standard deviations, and univariate main effects for burnout and coping (N= 260)

	Cluster 1 (N=172)		Cluster 2 (N=88)		
Scales	M	SD	M	SD	F η^2
Burnout	10.63	4.34	16.65	4.76	104.78 .29
Coping	23.17	3.25	21.06	3.06	25.33 .10

The importance of all the clustering variables in predicting teacher immunity is illustrated in Figure 3. Among the five variables, attitude toward teaching and openness to change had the highest and lowest predictive importance.

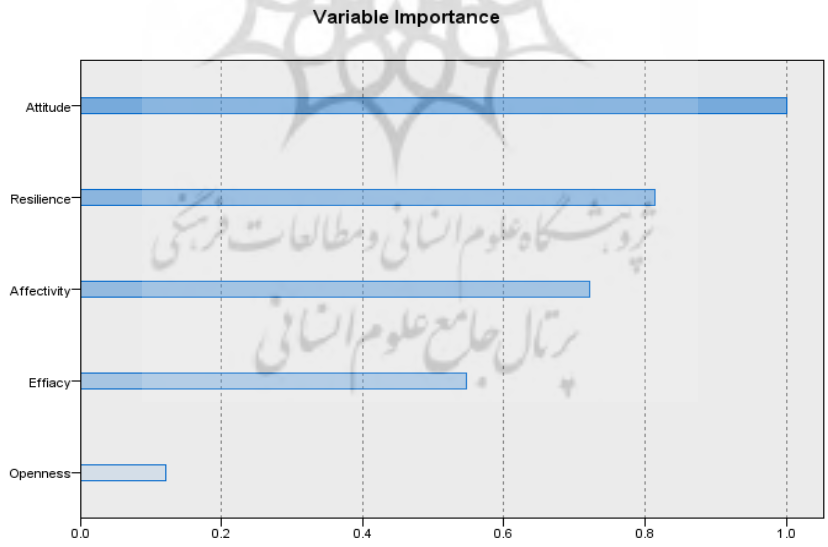

Figure 3. The amount of importance for each clustering variable

A comparison of the two yielded clusters revealed that the number of EFL teachers who enjoyed positive immunity (cluster 1, *n* = 172) was far beyond those with negative immunity (cluster 2, *n* = 88). The mean scores for all the clustering variables (attitudes toward teaching, resilience, affectivity, efficacy, and openness to change) in cluster 1 were higher than those of their counterparts in cluster 2 (see Figure 4). In addition, teachers' coping capacity (M = 23.17) in cluster 1 was higher than those (M = 21.07) of cluster 2. It was also found that teachers in cluster one suffered lower burnout levels (M = 10.63) than those in cluster 2 (M = 16.65).

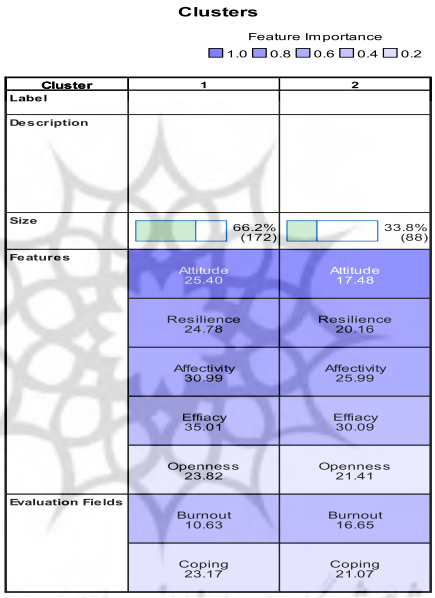

Figure 4. classification of clustering variables

The last line of the findings suggested that teachers with 8-20 years of teaching experience enjoyed more positive immunity. However, teachers with more than 20 years of teaching experience began to develop more negative immunity. The results also showed that positive immunity is more dominant among females than males, and the age differences resulted in different immunity types (see Table 3).

Table 3

Composition of the two clusters by gender, age, and experience (N=260)

	Cluster 1	Cluster 2	Sum
	N (%)	N (%)	N (%)
Gender			260 (100%)
Male	50 (29.1%)	36 (40.09%)	
Female	122 (70.9%)	52 (59.1%)	
Age			
19-24 years old	34 (19.8%)	12 (13.06%)	
25-30 years old	50 (29.1%)	21 (23.09%)	
31-36 years old	42 (24.4%)	27 (30.07%)	
37-42 years old	23 (13.4%)	11 (12. 5%)	
43-50 years old	7 (4.1%)	8 (9.1%)	
51+ years old	16 (9.3%)	9 (10.2%)	
Experience			
1-2 years	27 (15. 7%)	13 (14. 8%)	
3-4 years	21 (12. 2%)	9 (10. 2%)	
5-7 years	32 (18. 6%)	19 (21. 6%)	
8-10 years	26 (15. 1%)	15 (17. 0%)	
11-15 years	28 (16.3%)	10 (11. 4%)	
16-20 years	14 (8. 1%)	4 (4. 5%)	
21+ years	24 (14. 0%)	18 (20. 5%)	

5. Discussion and Conclusion

The present study aimed to examine the dominant immunity type developed among Iranian EFL teachers. In the EFL context of Iran, previous research either did not consider the role of demographic variables in teachers' immunity development (Haseli Songhori et al., 2018) or inspected prospective EFL teachers who have not experienced tackling professional hassles (Maghsoudi, 2020). The results of this study indicated that participants' attitudes toward teaching and openness to change had the highest and lowest predictive power in their

immunity formation. It was also found that the participants had established two types of immunity, namely the productive or positive one (cluster 1, n = 172) and the maladaptive or negative one (cluster 2, n = 88). The results indicated that the type of immunity growth in EFL teachers could be explained by their levels of teaching self-efficacy, resilience, attitudes toward teaching, openness to change, classroom affectivity, and coping scales. Those who scored significantly higher in the mentioned LTI components except burnout enjoyed productive immunity, and those who scored lower in the LTI scales suffered from maladaptive immunity. The findings also revealed that productively immunized teachers suffered lower levels of burnout than the maladaptively immunized ones.

The findings support Hiver's (2017) contemplation that teacher immunity is a situation-specific construct rather than being a built-in trait and evolves in reaction to particular contextual challenges EFL teachers may encounter. It explains the difference between the Haseli Songhori, et al.'s (2018) findings and those of the present study. They reported that more EFL teachers suffered from counterproductive immunity.

Moreover, EFL teachers with 8 to 20 years of teaching experience produced the positive, and teachers with more years of experience produced the negative immunity. The results corroborate the dynamic nature of immunity over time (Hiver, 2017). In other words, teachers who remain in the profession and bear the professional challenges, change their defence mechanism into a negative type that stealthily creeps into their instructional behavior (Hiver & Dörnyei, 2017; Noughabi et al., 2020). The findings are also in line with Maghsoudi's (2020) in that experience plays a significant role in determining immunity level. Nonetheless, the controversy arises concerning the role of gender in immunity development: the results of this study revealed that females surpassed positive immunity formation compared with men while gender differences played no role in previous studies (Maghsoudi, 2020). In terms of age differences, half of the teachers who aged from 25 to 30 years, developed productive immunity while more

teachers in other age groups established positive immunity with different portions.

The present study was constrained by lack of triangulation in the data collection phase. Adding an interview phase may increase the reliability of the findings related to the developed immunity type among the participants. Secondly, the data were gathered through convenient sampling from one city while a random sample of the EFL teachers from the broader contexts would yield more fruitful and generalizable findings.

After all, scrutinizing EFL teacher immunity outcomes contributes to broader knowledge and understanding of EFL teachers' phycological states and well-being that are highly beneficial for the language teacher education field. Moreover, as the findings revealed, more experienced EFL teachers suffered from counterproductive immunity. Therefore, language teacher education programs are better to inform prospective teachers of the concept, professional consequences, and behavioral manifestations of teacher immunity.

Suggestions can be made to conduct studies to find the ways to reboot the maladaptive immunity in EFL teachers. Besides, studies may be performed to investigate critical micro, macro, and meso issues facilitating or debilitating immunity formation at the beginning, during, and later EFL teaching experience stages.

References

Dörnyei, Z., Henry, A., & MacIntyre, P. D. (Eds.). (2014). *Motivational dynamics in language learning* (Vol. 81). Multilingual Matters.

Haseli Songhori, M., Ghonsooly, B., & Afraz, S. (2018). Language teacher immunity among Iranian EFL teachers: A self-organization perspective. *Iranian Journal of English for Academic Purposes*, *7*(1), 128-143.

Haseli Songhori, M., Ghonsooly, B., & Afraz, S. (2020). Language teacher immunity among Iranian EFL teachers: its possible sources, impacts on classroom practice, and influencing its developmental path. *Journal of Language Horizons*.

Hiver, P. (2015). Once burned, twice shy: The dynamic development of system immunity in teachers. *Motivational dynamics in language learning*, 214-237.

Hiver, P. (2017). Tracing the signature dynamics of language teacher immunity: A retrodictive qualitative modeling study. *The Modern Language Journal*, *101*(4), 669-690.

Hiver, P., & Dörnyei, Z. (2017). Language teacher immunity: A double-edged sword. *Applied Linguistics*, *38*(3), 405-423.

Maghsoudi, M. (2020). Productive or maladaptive immunity? Which one is more dominant among Iranian EFL Prospective Teachers?. *Applied Research on English Language*.

Mercer, S. (2018). Psychology for language learning: Spare a thought for the teacher. *Language Teaching*, *51*(4), 504-525.

Noughabi, M. A., Amirian, S. M. R., Adel, S. M. R., & Zareian, G. (2020). The Association of Experienced in-service EFL teachers' immunity with engagement, emotions, and autonomy. *Current Psychology*, 1-10.

Norusis, M. J. (2007). *SPSS 15.0 advanced statistical procedures companion*. Chicago, IL: Prentice Hall.

Norusis, M. J. (2011). *IBM SPSS statistics 19 procedures companion*. Reading, MA, Addison-Wesley.

Ordem, E. (2017). A Language Teacher's Reflection on Maladaptive Immunity, Possible Selves, and Motivation. *International Education Studies*, *10*(9), 1-8.

Pouromid, S., & Amerian, M. (2018). Iranian and Japanese Language Teachers' Operationalization of Materials Mode and their Pursuit of Immunity. *Electronic Journal of Foreign Language Teaching*, *15*(1).

Rahimpour, H., Amirian, S. M. R., Adel, S. M. R., & Zareian, G. R. (2020). A model of the factors predicting English language teacher immunity: A path analysis. *Indonesian Journal of Applied Linguistics*, *10*(1), 73-83.

Rahmati, T., Sadeghi, K., & Ghaderi, F. (2019). English as a foreign language teacher immunity: An integrated reflective practice. *Iranian Journal of Language Teaching Research*, *7*(3 (Special Issue)), 91-107.

Tkaczynski, A., Rundle-Thiele, S., & Beaumont, N. (2010). Destination segmentation: A recommended two-step approach. *Journal of Travel Research*, *49*, 139–152.

Tkaczynski, A., Rundle-Thiele, S. R., & Prebensen, N. K. (2015). Segmenting potential nature-based tourists based on temporal factors: The case of Norway. *Journal of Travel Research*, *54*, 251–265.