



Promotion of Digital Parenting to Foster Iranian Adolescent EFL Learners' Self-Efficacy in Online Learning

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Abstract

Navigating the technology-saturated landscape of language education poses a daunting task for present-day parents. As primary companions in EFL learners' online learning journey, parents need to help them cultivate online language education. Guided by the parental mediation theory, the present study's primary objective was to examine any correlation between parental mediation strategies and Iranian EFL learners' online learning self-efficacy. Inspired by Vygotsky's (1978) social development theory, which posits that knowledge is constructed within a social context, and Valkenburg et al.'s (2013) autonomy-supportive mediation, the second aim of the study was to uncover strategies that help promote digital parenting to foster learners' self-efficacy in online language learning. Using an explanatory sequential mixed-methods design, data were gathered through questionnaires from 414 Iranian EFL learners aged between 12 and 18, selected through non-probability convenience sampling. Additionally, 47 learners, their parents, and 15 EFL teachers were voluntarily interviewed. Multiple linear regression analysis demonstrated that restrictive mediation and monitoring strategies reduced learners' online learning self-efficacy while active mediation enhanced it. Reflexive thematic analysis of the interviews also revealed that digital parenting practices, which consider learners' autonomy and encourage cooperative engagement between learners and parents, will nurture self-regulated online language learners. The findings could set a new benchmark for digital parents, helping them bring up children capable of judiciously leveraging online opportunities.

Keywords: Digital Parenting, Parental Mediation, Online Language Education, Online Learning Self-Efficacy

Family life has been overshadowed by the growing proliferation of household media technology, which has placed a big burden on parents whose children are involved in using digital media. When dealing with children's technology consumption, parents are awarded a second "parenting obligation" (Lim, 2018, p. 34); they are digital parents. The so-called new

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obligation does not replace but rather complements their long-established role. Being granted this complementary responsibility, parents act as the primary architects in molding their children's competence in utilizing technology. However, the privatization of modern technology consumption and the variety of constantly changing online activities have complicated parents' technology-related duties even more (Gentile et al., 2017; Symons et al., 2017b). As digital parents, they need to "ensure that they cultivate a healthy media environment for their children" (Lim, 2018, p.33) and foster their mindful utility of available online resources.

An important and facilitative role of technology, which has blossomed considerably as a result of accelerated digitalization, is serving as a medium for education, especially language learning. The distribution of information through the Internet has significantly altered conventional educational systems, leading to the emergence of online learning. English as a Foreign Language (EFL) instruction, like any other academic field, has also experienced a significant increase in utilizing online platforms and technological tools for the delivery of materials (Abdelrady & Akram, 2022; Jiang et al., 2023), and FFL learners nowadays engage with a variety of technological tools to learn the language (Golonka et al., 2014). Online learning environments are typically novel and challenging, and learners are usually left to face the potential difficulties on their own due to the physical absence of teachers and peers. The situation is particularly challenging in Iran, where online education was rigorously adopted only after the outbreak of the Covid-19 pandemic (Badrkhani, 2021; Dashtestani, 2014) and can even be heightened when learners are engaged in the process of learning a foreign language. This is mainly because, in online language classes, the challenges of engagement in self-regulated learning through online environments can be exacerbated by the anxiety and self-doubt associated with learning a foreign language, thus intensifying the stress of the learning experience. Therefore, EFL learners need to be motivated and confident about their ability to fulfill online learning activities better and have an optimal level of self-efficacy. Parents are undoubtedly the main people who can lighten the burden and smoothen the process of online learning by employing digital parenting techniques, which give learners the confidence to tackle challenges independently.

Literature Review

Parental Mediation: Online Opportunity Enhancement

Deregulation and the low standards of children's television led to the emergence of the parental mediation theory in the 1980s (Mendoza, 2009). Parental mediation is an extension of parents' inherent parenting practices into the new landscape of digital exploration. This theory is grounded in Bandura's (1977) social learning theory, which views parents as role models and incorporates principles of situated learning, which places the child and their interactive experiences with parents at the center (Clark, 2011). Drawing on some of the similar foundations of Vygotsky's (1978) social development theory, the parental mediation theory

also emphasizes the mediating role of parents in a child's interaction with media. However, originally emerging from a media effect paradigm (Jiow et al., 2017), this theory specifically deals with interpersonal strategies parents employ to mitigate the negative effects of children's exposure to media (Clark, 2011).

When considering modern interactive technology, parental mediation explains how parents regulate and manage their children's relationship with media and their media consumption (Livingstone & Helsper, 2008). It is used as a strategy to reduce technology's negative effects on children while effectively harnessing its benefits (Clark, 2011; Kirwil, 2009). Since its emergence, many different typologies of parental mediation strategies have been developed (e.g., Livingstone & Helsper, 2008; Nikken & Jansz, 2014; Padilla-Walker et al., 2012; Paus-Hasebrink et al., 2019; Symons et al., 2017a). Nevertheless, all of them can be said to utilize three main strategies originally introduced by Nathanson (1999) as their benchmark: *restrictive mediation*, *active mediation*, and *co-viewing*.

When parents set boundaries to regulate their children's access to digital media without providing a rationale for it (Chen & Chng, 2016; Shin & Lwin, 2022), they practice the *restrictive mediation* strategy. *Active mediation* refers to instructive parent-child interpersonal interaction where parents are actively involved in their children's media consumption process, critically evaluate the content, jointly discuss its potential merits and demerits, and offer solutions (Beyens et al., 2022; Kuldass et al., 2021). In some situations, parents and children might jointly engage in media consumption without actively engaging in discussions, thus practicing the *co-view* strategy. Due to the interactive nature of modern technology, co-viewing has been altered by *co-use* (Nathanson, 2018). However, the evolution of digital devices towards increased personalization and mobility has rendered it less practical.

The fourth strategy used in this study is the one identified by Livingstone and Helsper (2008) as *monitoring*, which involves covertly or overtly overseeing children's online activities after they have finished navigating. Two additional strategies are introduced, which take the child's agency into consideration more. The first, introduced by Clark (2011), is *participatory learning*. It entails that learning not only takes place through media but is also facilitated by them. It is similar to active mediation in emphasizing the parent-child relationship, but instead of giving advice or passing judgment, parents collaboratively interact with children, try to learn with them, and improve their knowledge of digital media (Clark, 2011). *Autonomy-supportive* mediation is the second one proposed by Valkenburg et al. (2013), where parents restrict or actively discuss media use while providing rationale and valuing their child's perspective. Because children seek more autonomy and independence as they mature, implementing this strategy becomes essential during adolescence.

Parental mediation studies primarily consider it from a risk-oriented perspective (Jeffery, 2021; Modecki et al., 2022). Nevertheless, more recent scholarly works also recognize its potential for generating online opportunities. Research consistently confirms the effectiveness of active mediation in the enhancement of online opportunities (Cabello-Hutt et al., 2018;

Valkenburg et al., 2013). It is positively related to higher digital skills in children and adolescents, as well as more effective adaptation following negative encounters on the Internet (Chang et al., 2015; Festl, 2021; Shin & Lwin, 2017). Active mediation also leads to the enhancement of learning-related Internet use (Chen & Shi, 2019; Ren & Zhu, 2022) and the development of media-related critical thinking (Fujiko & Austin, 2002).

The results related to restrictive mediation are conflicting since its effectiveness largely depends on the degree of restriction applied (Livingstone & Helsper, 2008). Regarding its role in the beneficial utilization of technology, research indicates that extensive restriction inhibits online opportunities and the development of children's digital skills and autonomy (Beyens et al., 2022; Cabello-Hutt et al., 2018; Livingstone et al., 2017; Steinfeld, 2021). However, monitoring is argued to be a violation of a child's privacy (Livingstone & Bober, 2006) and possibly a hindrance to their autonomy. Nevertheless, research demonstrates that both active and restrictive mediation can have a facilitative effect on a child's experience with media if employed in an autonomy-supportive way (Fikkers et al., 2017; Meeus et al., 2018; Valkenburg et al., 2013).

Self-Efficacy in Online Language Learning: The Role of Parents

With the advent of technological advancements, in-person learning is now complemented by technology-enhanced online learning. Like other educational environments, EFL pedagogy has also exhibited a significant increase in the delivery of education through online learning platforms (Abdelrady & Akram, 2022; Jiang et al., 2023). Technological devices are incorporated into language education, and EFL learners engage with an array of technological tools and online platforms to learn English (Dressman & Sadler, 2020; Sauro & Zourou, 2019; Socket, 2014; Sundqvist & Sylvén, 2016) both inside and outside the classroom context (An et al., 2021). Since students primarily rely on their own abilities in online learning environments and cannot fully communicate with their teachers and peers, learning might be a real burden to them (Cho & Jonassen, 2009; Cho et al., 2010). Therefore, to overcome the potential difficulties of this demanding environment, they need to have a high level of self-efficacy.

Research indicates that the importance of self-efficacy is particularly apparent in the dynamic atmosphere of online learning environments, where learners confront and navigate various challenges (Prior et al., 2016; Zheng et al., 2020; Zimmerman & Kulikowich, 2016). Online learning self-efficacy is defined as "an individual's perceptions of his or her abilities to successfully complete specific tasks required of online learners" (Zimmerman & Kulikowich, 2016, p. 181). It is a crucial factor in an individual's performance, especially for stressful and challenging tasks that they have never carried out before (Bandura, 1977) and as a result, gains importance when they experience online learning for the first time (Yavuzalp & Bahcivan, 2020).

Research confirms that parents' involvement and enthusiasm in students' educational pursuits contribute to the development of their learning competencies and promote their

motivation (Elliot et al., 2017; Gao et al., 2021). Parental engagement has also been shown to correlate positively with children's successful performance in online learning environments (Hart, 2012; Kong, 2018). In addition to facilitating technological access, parents are tasked with overseeing how their children make use of technological tools so as to optimize their learning outcomes and enhance their motivation for learning (Hwang et al., 2015; Valcke et al., 2010). It is further confirmed that learners are more likely to develop a positive attitude toward the Internet, exhibit higher self-efficacy, and engage more effectively in virtual learning environments if their parents hold optimistic views toward technology and offer greater assistance during the learning process (Gao et al., 2021; Hammer et al., 2021; Prior et al., 2016; Yavuzalp & Bahcivan, 2020).

Parental involvement is regarded as an important factor in language education as well. Literature indicates that parents and parent-related factors play a crucial role in the academic performance of foreign language learners (Butler & Le, 2017; Shin & Seger, 2016). This is also true for online language learning. The abrupt transition to virtual learning has left many language learners ill-equipped to meet the demands of online education. The challenges inherent in online learning, such as limited interaction, insufficient social presence of instructors and peers, and ineffective communication, are widely recognized as significant drawbacks of virtual education (Harsch et al., 2021; Tarrayo et al., 2023). Acknowledging that effective communication is essential for successful language acquisition, parents' role becomes more pronounced, both as EFL learners' practice partners in the physical absence of their teachers and peers and in enhancing their self-efficacy in learning through online platforms. Nevertheless, there is a notable gap in the literature exploring how parents' mediation of learners' use of digital media influences their online learning self-efficacy in language classes, and this issue has not been adequately addressed.

Even though parental mediation research has exhibited a move away from employing risk-centered parenting practices toward a more optimistic perspective that emphasizes opportunity enhancement and the pursuit of potential (Lareau, 2011; Nelson, 2010), the risk-driven approach still remains in effect (Jeffery, 2021; Modecki et al., 2022). Moreover, digital parenting behaviors are very multidimensional and complicated, encompassing numerous practices (Odgers, 2019). Likewise, parental mediation is a dynamic process that is context-dependent and shaped by the interaction between parents and their children. The prevailing parental mediation theory offers a useful theoretical framework; however, it fails to fully capture the multidimensional nature of parent-adolescent relationships, particularly in terms of autonomy-supportive parenting, which is dominantly employed with regard to adolescents and also participatory learning. Therefore, a more meticulous approach is needed to scrutinize these dynamics.

The issue of digital parenting is not a well-explored topic in Iran and is quite in its infancy. To the best of the researchers' knowledge, there is a scarcity of studies that investigate the role of digital parenting in enhancing adolescent EFL learners' self-efficacy in online language

learning environments. The present study aimed to address these gaps by seeking answers to the following research questions:

1. Do parental mediation strategies predict Iranian adolescent EFL learners' online learning self-efficacy?
2. How can digital parenting be promoted to enhance Iranian adolescent EFL learners' self-efficacy in online language learning?

Method

Research Design

An explanatory sequential mixed-methods design was specifically employed in the present study. A quantitative phase involving the use of questionnaires was initially carried out to identify each parental mediation strategy's role in the enhancement of Iranian EFL learners' online learning self-efficacy. Subsequently, in the qualitative phase, interviews were conducted to obtain comprehensive insights from the participants regarding the factors that contribute to the promotion of digital parenting to foster EFL learners' self-efficacy in online learning, elicit pertinent themes, and uncover dimensions not captured in the quantitative phase.

Participants

The target population for this study consisted of all Iranian EFL learners from 12 to 18 years of age, a commonly selected age range for parental mediation studies (Naab, 2018). A non-probability convenience sampling method was employed to select the participants based on their ease of access from different social media groups ($N = 135$), language institutes ($N = 103$), and high schools ($N = 176$). The justification for choosing this sampling technique was the impracticality of reaching the extensive target population across all cities in Iran for random sampling. Thus, choosing them from the cities accessible to the researchers was assumed to be the best decision. The participants in the quantitative phase consisted of 414 Iranian EFL female (53.4%) and male (46.6 %) learners who had experience taking part in online language classes and owned at least one connected digital device (Table 1). They came from various provinces in Iran, including East Azerbaijan, Tehran, Fars, Razavi Khorasan, and Khuzestan.

The participants taking part in the qualitative phase were also voluntarily selected from among the main 414 participants. They consisted of 47 FFL learners (26 females, 21 males) from different cities in Iran, including Tabriz ($N = 10$), Tehran ($N = 7$), Sahand ($N = 6$), Osku ($N = 5$), Esfahan ($N = 5$), Qom ($N = 4$), Shiraz ($N = 4$), Mashhad ($N = 3$), and Abadan ($N = 3$). The interviewees also included one of each learner's parents, either their mother or father (30 mothers, 17 fathers), who was mostly engaged with their online learning process. Fifteen EFL teachers (9 females, 6 males) teaching at language institutes also voluntarily agreed to participate in the interviews. They were from Tabriz ($N = 5$), Tehran ($N = 3$), Sahand ($N = 3$), Mashhad ($N = 2$), and Shiraz ($N = 2$), and they had experience teaching the language through online platforms as well. The teachers ranged in age from 27 to 43 years and were divided into

two groups based on their teaching experience: those who had less than 10 years of experience ($N = 11$) and those with more than 10 years of experience ($N = 4$). The demographic characteristics of the participants who took part in the qualitative phase are presented in Table 2. The number of participants in the qualitative phase was determined when data saturation occurred, and no new themes emerged (Cobern & Adams, 2020).

Table 1

Demographic Characteristics of EFL Learners Taking Part in the Quantitative Phase

| | N | Age Range | Gender (%) | | Pre- Intermediate | English Proficiency Level (%) | | |
|--------------|-----|--------------|------------|------|----------------------|-------------------------------|------------------------|----------|
| | | | Female | Male | | Intermediate | Upper- Intermediate | Advanced |
| EFL Learners | 414 | 12-18 | 53.4 | 46.6 | 9.7 | 22.7 | 46.6 | 21 |

Table 2

Demographic Characteristics of the Three Groups of Participants in the Qualitative Phase

| | N | Age Range | Gender (%) | | Years of Teaching Experience (%) | | | |
|--------------|----|--------------|--------------------------------|------|----------------------------------|--------------|--------------------|----------|
| | | | Female | Male | Less than 10 years | | More than 10 years | |
| EFL Teachers | 15 | 27-43 | 53.4 | 46.6 | 73.3 | | 26.6 | |
| | N | Age Range | Gender (%) | | English Proficiency Level (%) | | | |
| | | | Female | Male | Pre-Intermediate | Intermediate | Upper-Intermediate | Advanced |
| EFL Learners | 47 | 12-18 | 55.3 | 44.6 | 10.6 | 38.2 | 27.6 | 23.4 |
| | N | Age Range | Relation with the Learners (%) | | | | | |
| | | | Mother | | | Father | | |
| Parents | 47 | 30-57 | 63.8 | | | 36.1 | | |

Instruments

Online Learning Self-Efficacy Scale (OLSES)

The OLSES, designed by Zimmerman and Kulikowich (2016), is a three-component scale comprising 22 items as well as three subscales (see Appendix A). The subscales are 'technology use', 'learning in the online environment', and 'time management.' The items are measured on a five-point Likert scale, ranging from 1 (very weak) to 5 (very confident). The scale demonstrated strong internal consistency, with a Cronbach's alpha of .90 and a content validity index of .88, indicating that it is a valid scale. This scale was chosen over other comparable options because its validity has been confirmed within the Iranian context in a study by Ahmadipour (2022).

Parental Mediation for Adolescents' Internet Usage Scale-Adolescent Form (PMS-A)

The scale was developed by Ergin and Kapçi (2019) to measure how adolescents perceive their parents' efforts to regulate their online activities using various parental mediation techniques (see Appendix B). It is a 20-item scale, measured on a five-point Likert scale ranging from 1 (never) to 5 (always), and consists of three sub-dimensions: 'control/restrict,' 'active mediation,' and 'monitoring.' Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied by the developers to test the construct validity, which confirmed its effectiveness in measuring the intended constructs. The Cronbach's alpha obtained for internal consistency of the entire scale was .91.

Interviews

Interviews were conducted as part of the qualitative data collection process to gather comprehensive insights. A set of predetermined interview questions was prepared for each category of participants, including EFL learners (see Appendix C), their parents (see Appendix D), and EFL teachers (see Appendix E). To tailor more pertinent questions and avoid off-topic ones, the existing literature on aspects of parental mediation that contribute to adolescents' successful engagement in online activities was carefully reviewed (e.g., Ergin & Kapçi, 2019; Modecki et al., 2022; Padilla-Walker et al., 2012; Symons et al., 2017a, 2017b; Valkenburg et al., 2013). The key points elicited from them were then turned into different sets of interview questions for each group of participants. The questions were subsequently reviewed by two experts for clarity and accuracy. Nonetheless, during the interview process, several unexpected questions also surfaced, prompting the development of new codes and themes.

Data Collection Procedure

The participants were initially informed about the purpose of the research and assured that the data would be used solely for research purposes, with their anonymity preserved. The EFL learners were asked to complete the two questionnaires. According to the literature suggesting that children's accounts of their parents' parental mediation are more reliable than those of the parents because they are not affected by a desire for social admiration (Gentile et al., 2012; Liao et al., 2005; Nikken, 2017), the learners were selected to respond to the parental mediation scale. The first section of each questionnaire collected demographic information, including the learners' age, gender, and language proficiency level. The questionnaires were administered either in person or via a link from a form creator website called Porsline (<https://www.survey.porsline.ir>). For the sake of counterbalancing, about half of the participants received the first questionnaire first, while the other half received the second.

Interviews were conducted with each group of participants separately. To ensure clarity, the interviews were carried out in the participants' native language, except for the language teachers. The participants who lived in Tabriz and Tehran were interviewed in person or via telephone. The approximate duration of the interviews was about 35-40 minutes. These

interviews were audio-recorded and transcribed. Face-to-face interviews were not possible for participants residing in other cities, therefore, their interview questions were sent to them in a Word document file via email or social media platforms (WhatsApp, Telegram, or Eitaa). They were asked to provide their answers in typed or handwritten form. To compensate for the absence of face-to-face interaction, the participants and researchers communicated through social media. Using text messages, voicemails, and, in some cases, video calls, they aimed to clarify any potential misunderstandings as much as possible to ensure that all parties were on the same page despite the physical distance.

Data Analysis

The quantitative data were analyzed using IBM SPSS Statistics (version 26). First, the Kolmogorov-Smirnov test was applied to assess the normality of the data. Since the data were not normally distributed, Spearman's rank-order nonparametric correlational test was conducted to discern any significant correlations between the criterion and predictor variables. To determine whether the criterion variable could be significantly predicted by the independent variables, a multiple linear regression model was performed.

Next, reflexive thematic analysis was utilized to analyze the qualitative data obtained from interviews and identify patterns of meaning embedded in them. Initially, the audio-recorded interviews were transcribed and meticulously reviewed to ensure accuracy. Those in the participants' mother tongue were then translated into English. The interviews were analyzed and coded using both ATLAS.ti (version 24.1.0) and manual methods. First, the transcripts were read carefully, and relevant statements from the participants' responses were highlighted and documented separately. Next, the highlighted points were reviewed to identify recurring and connected ideas. They were labeled as codes, and the related codes were finally categorized into relevant themes.

Results

In this section, the results of the quantitative data analysis are primarily displayed to uncover any statistical relationships between parental mediation strategies obtained through participants' composite scores in PMS-A and online learning self-efficacy, indicated by their composite scores in OLSES. Next, the outcomes of the qualitative data analysis derived from interviews are presented through relevant themes.

Do Parental Mediation Strategies Predict Iranian Adolescent EFL Learners' Online Learning Self-Efficacy?

To address the first research question, a multiple regression analysis was carried out to examine how well parental mediation strategies—namely restrictive mediation, active mediation, and monitoring (independent variables)—predict the overall online learning self-

efficacy of Iranian EFL learners (dependent variable). Table 3 presents the descriptive statistics for online learning self-efficacy and each parental mediation strategy.

Table 3

Descriptive Statistics for Variables of the Study

| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness |
|-------------------------------|-----|---------|---------|-------|----------------|----------|
| Online Learning Self-Efficacy | 414 | 56 | 110 | 81.48 | 13.645 | -.041 |
| Restrictive Mediation | 414 | 11 | 54 | 28.95 | 9.571 | .200 |
| Active Mediation | 414 | 5 | 25 | 15.09 | 4.950 | -.075 |
| Monitoring | 414 | 4 | 20 | 11.01 | 3.686 | .171 |
| Valid N (listwise) | 414 | | | | | |

The Kolmogorov-Smirnov test was carried out to assess the normality of the data. As shown in Table 4, the sig. Values for the predictor and criterion variables are less than the critical value ($p < .001$); therefore, the assumption for using parametric tests is violated.

Table 4

Tests of Normality for the Criterion Variable and the Predictors

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------------------------------|---------------------------------|-----|------|--------------|-----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Online Learning Self-Efficacy | .071 | 414 | .000 | .975 | 414 | .000 |
| Restrictive Mediation | .070 | 414 | .000 | .981 | 414 | .000 |
| Active Mediation | .083 | 414 | .000 | .977 | 414 | .000 |
| Monitoring | .086 | 414 | .000 | .980 | 414 | .000 |

Since the results of the Kolmogorov-Smirnov test indicated that the data did not follow a normal distribution, Spearman's rank-order nonparametric correlational test was conducted to examine the potential correlations between parental mediation strategies and learners' online learning self-efficacy. The results of these correlations are presented in Table 4. As indicated in Table 5, restrictive mediation ($r(412) = -.29, p < .001$) and monitoring ($r(412) = -.48, p < .001$) are negatively correlated with online learning self-efficacy. In contrast, a significant positive correlation was found between active mediation and self-efficacy ($r(412) = .60, p < .001$).

Table 5

Spearman's Rank-Order Correlation among Online Learning Self-Efficacy and Parental Mediation Strategies

| | | | Restrictive Mediation | Active Mediation | Monitoring |
|----------------|-------------------------------|-------------------------|-----------------------|------------------|------------|
| Spearman's rho | Online Learning Self-Efficacy | Correlation Coefficient | -.291** | .603** | -.486** |
| | | Sig. (2-tailed) | .000 | .000 | .000 |
| | | N | 414 | 414 | 414 |

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

Before conducting the multiple regression analysis, the assumptions specific to the analysis were tested. First, extreme outliers were winsorized by replacing them with the next highest or lowest non-outlier value in the dataset to minimize their impact on the results. Even though the results of the Kolmogorov-Smirnov test did not indicate normality of distribution—an expected outcome for large sample sizes—the P-P plot of the regression residuals showed only minor deviations from the diagonal line. Moreover, to check for the independence of errors, the Durbin-Watson test was conducted, the value of which was close to 2, indicating that this assumption was also met (Table 7). Collinearity was assessed by examining the Tolerance and VIF values (Table 8). Both values were less than 10, indicating no extreme correlations between the predictors. Finally, to assess homoscedasticity, the scatterplot of the standardized residual errors against the predicted value was examined, which exhibited an elliptical shape, confirming that the data were not heteroscedastic.

Table 6

Regression Model ANOVA Test for the Relationship between the Criterion Variable and the Predictors

| | Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|------------|----------------|-----|-------------|---------|-------------------|
| 1 | Regression | 34377.101 | 3 | 11459.034 | 110.509 | .000 ^b |
| | Residual | 42514.244 | 410 | 103.693 | | |
| | Total | 76891.345 | 413 | | | |

The regression model ANOVA test indicates that the overall fit of the model is statistically significant ($F(3, 410) = 110.5, p < .001$), suggesting that the model explains a significant portion of the variance in online learning self-efficacy scores and at least one parental mediation strategy has a significant impact on online learning self-efficacy. Moreover, the adjusted $R^2 = .44$ reveals that approximately 44.7% of the variation in online learning self-efficacy scores can be explained by parental mediation strategies (Table 7).

Table 7

Regression Model Summary of the Relationship between the Criterion Variable and the Predictors

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .669 ^a | .447 | .443 | 10.183 | 1.722 |

According to Table 8, the analysis shows that all three parental mediation strategies of restriction ($\beta = -.1, t(413) = -2.8, p = .005$), active mediation ($\beta = .46, t(413) = 11.67, p < .001$), and monitoring ($\beta = -.29, t(413) = -7.38, p < .001$), can significantly predict online learning self-efficacy values.

Table 8

Regression Output: Coefficients for the Relationship between Online Learning Self-Efficacy and Parental Mediation Strategies

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 78.594 | 3.129 | | 25.116 | .000 | | |
| | Restrictive Mediation | -.154 | .055 | -.108 | -2.801 | .005 | .912 | 1.097 |
| | Active Mediation | 1.279 | .110 | .464 | 11.672 | .000 | .853 | 1.172 |
| | Monitoring | -1.087 | .147 | -.294 | -7.388 | .000 | .854 | 1.171 |

The multiple regression equation for predicting online learning self-efficacy scores from restrictive mediation (X_1), active mediation (X_2), and monitoring (X_3) is $\hat{Y} = 78.59 - 0.15X_1 + 1.27X_2 - 1.08X_3$. This equation suggests that for every unit increase in the value of restrictive mediation and monitoring, the online learning self-efficacy value will decrease by 0.15 and 1.08 units, respectively. In contrast, for every unit increase in the value of active mediation, the value of online learning self-efficacy will also increase by 1.27 units.

How Can Digital Parenting Be Promoted to Enhance Iranian Adolescent EFL Learners' Self-Efficacy in Online Language Learning?

To address the second research question, the themes elicited from the answers of EFL learners, their parents, and EFL teachers to the interview questions are presented separately, along with pertinent quotes. The participants mostly shared aligned perspectives and highlighted similar points, but some factors were more frequently emphasized by certain groups of participants, owing to their specific roles. The percentages of each theme in the statements provided by each participant group are demonstrated in Table 9.

Table 9

Percentages of Occurrence of Themes in Quotes

| Themes | Frequency of Occurrence of the Themes in Statements (in Percentages) | | |
|--|--|---------|--------------|
| | EFL Learners | Parents | EFL Teachers |
| Teach proper usage etiquette | 7.8 | 35.5 | 56.5 |
| Co-build technical expertise | 7.2 | 43.4 | 49.2 |
| Foster critical thinking | 26.8 | 41.2 | 31.9 |
| Create a calm learning environment | 48.5 | 30.4 | 21 |
| Be a tech-positive Parent | 40.1 | 31.3 | 28.4 |
| Nurture autonomy | 48.3 | 20.8 | 30.8 |
| Actively participate in the learning process | 31.9 | 25.4 | 42.6 |

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| Themes | Frequency of Occurrence of the Themes in Statements (in Percentages) | | |
|--|---|---------|--------------|
| | EFL Learners | Parents | EFL Teachers |
| Be good role models | 43.6 | 23 | 33.3 |
| Introduce online language learning resources | 29.7 | 23.8 | 46.4 |
| Jointly engage in the use of educational tools | 22.6 | 37.1 | 40.2 |
| Collaborate with language teachers | 20.9 | 13.5 | 65.4 |

Teach Proper Usage Etiquette

Teachers frequently noted that while parents strived to equip their children with technological tools, they fell short of guiding them on how to use these devices properly.

Prior to giving their kids mobile phones and electronic gadgets, parents must educate them on proper usage etiquette and closely monitor their initial interactions with these devices. This ensures that children navigate the virtual world safely and make the most of it. (Female Teacher No.5)

They also highlighted that not paying attention to ethical ways of using digital devices will primarily harm their own child and turn them into irresponsible users.

Being unfamiliar with the proper way to use digital devices can expose individuals to dangers, such as stumbling upon inappropriate websites, or behaving rudely with others in the virtual world. (Male Teacher No.2)

Co-Build Technical Expertise

The enhancement of parents' technological awareness and the problems of its lack were repeatedly emphasized by teachers, considering their deeper involvement with learners on online learning platforms.

They provide technological facilities for their children without knowing how they work and what hazards await them in the virtual world. It is them who need awareness first. (Female Teacher No.8)

Considering that parents might not be as tech-savvy as their children, they might struggle with locating useful information about technological tools or online learning platforms on their own. So they can learn collaboratively with their children and fill their knowledge gap.

They [parents] can't do it alone? That's okay. They can get help from their children because they are experts in using technology. (Female Teacher No.2)

This issue could be particularly challenging in Iran due to limited accessibility and the language barrier of most tutorials. Parents who are not familiar with English struggle to comprehend the in-app tutorials. As a result, they need learners' knowledge of the language.

I try to enhance my knowledge by watching YouTube videos or searching for websites, which can help me learn to use certain applications. But most of them are in English, so I usually get help from my son. (Mother No.23)

Foster Critical Thinking

The general contributing effect of critical thinking was also indicated by a couple of parents, who claimed that they involve their children in the decision-making process about their educational issues and encourage them to evaluate any issue that might arise independently.

When a problem arises in her learning process, and she comes to me, I tell her to consider possible solutions and tell me about them. (Mother No.11)

We are not always out there for our children. So, I try to help my daughter discern right from wrong and talk to her about the consequences of trusting the wrong people. The rest is up to her. (Father No.5)

Teachers also noted that for learners to be able to promote their evaluative abilities, parents need to encourage them to contemplate any content they encounter in digital media and on the Internet.

Parents should teach their children and adolescents not to trust any content they come across on the Internet, be it educational or any other type of content. They should be taught to cross-check information by consulting various websites or experts before believing it. (Female Teacher No.3)

Create A Calm Learning Environment

Teachers believe that parents have a significant role in alleviating the stressful and demanding atmosphere of online learning classes.

Online learning is more stressful than face-to-face learning because learners feel isolated and desperate. They [parents] need to maintain a stress-free home environment to help them stay focused. (Male Teacher No.5)

Some of the learners asserted that their parents try to provide a peaceful and tranquil learning environment for them at home while they are engaged in their online English class.

While I'm engaged in online language classes, my mother tries to keep the house quiet. She minimizes the distractions and stays out of my room. This helps me concentrate better. (Female Learner No.23)

However, for some others, the situation was reversed, making them lose their interest in online learning.

They don't bother to consider that I have an online class and need to concentrate. They start chatting loudly, so when the teacher calls on me to respond through the microphone, I tell him it's broken. I feel uncomfortable and prefer face-to-face classes. (Male Learner No.14)

Be a Tech-Positive Parent

The word 'tech-positive' was first used by Heitner (2016) in her book. Tech-positive parents recognize the positive effects of technology and hold an optimistic view about their

children's tech habits. Parents need to know that their positive attitude toward technology makes their children perceive using it as a desired experience, and this increases their competence.

Technology is an inseparable part of our life. Without it everything, especially communication and education, is disrupted. So we need to reconcile with its presence by teaching our children wiser use. (Mother No.23)

Some of the parents held a realistic view of technology and emphasized that hazards are a result of misuse, not the inherent negativity of the device itself.

Technology in itself is not a bad thing; it's the harmful ways we sometimes use it that pose problems. So, it's better to guide our children on how to use it properly rather than completely dismiss it. (Father No.12)

Nurture Autonomy

This factor was dominantly addressed by learners who were older and sought more independence or whose parents imposed their opinions on them. Despite a shift toward a more democratic family communication style, this factor is still noteworthy and, in some cases, can get more severe.

When I need to inquire about my lesson from my teacher online, I find myself at a loss for words. I don't have the self-confidence to compose messages by myself, so I end up turning to my parents for guidance because they know better. (Female Learner No.3)

The ability to manage time independently is considered an important factor in learners' successful engagement in online learning (Taipjutorus et al., 2012), and teachers believe that this can be accomplished if parents grant adolescents autonomy.

I often get messages from learners saying things like I couldn't manage to answer the questions on time because my mother/father usually helps me and they aren't here right now. This is mostly because they are too much dependent on an adult to tell them what to do. (Female Teacher No.5)

Nevertheless, granting autonomy should be balanced with reasonable supervision and safety concerns. Giving total freedom implies irresponsibility.

I have total freedom of choice. My parents don't interfere with my studies. They have other more important responsibilities. (Male Learner No.16)

Actively Participate in the Learning Process

Parental involvement has a positive association with children's successful performance in online learning environments (Hart, 2012; Kong, 2018). Interviewing with learners revealed that even though they claimed their autonomy, they were not satisfied with their parents' lack of involvement.

One of the negative points about my mother's behavior is that she does not care about how I learn and what goes on in our language class. (Female Learner No.21)

Nevertheless, parents who had knowledge of English mentioned that they employ various methods to indicate their participation in their child's educational process.

I play motivational audio or video files for my daughter to encourage her in her studies.
(Father No.7)

We listen to English podcasts together...he sometimes shows me TED Talks videos...I don't make sense of most of it but I accompany him in this because I want him to be encouraged to use the language by explaining them to me. (Mother No.16)

Be Good Role Models

Parents should control and keep balance in their digital device usage and show that they are in control, not controlled by these devices (Heitner, 2016).

Since parents are busy with these devices twenty-four seven, either for their occupation or for entertainment, they are practical models for their children. (Male Teacher No.6)

They can serve as a good role model if they stop scrolling around with devices and teach their children to use technology for useful purposes. (Female Teacher No.8)

Distracted parents, who are overly preoccupied with online activities, fail to be good role models for their children, and therefore, their children don't give credit to their words.

My mom constantly warns me that excessive use of digital devices damages your eyesight, yet I notice her glued to her smartphone all the time. So, I ignore her advice. (Female Learner No.17)

Introduce Online Language Learning Resources

Teachers also believe that parents can better help their children find adequate online learning resources because they are more experienced.

Parents should provide online language learning resources for their children because, in this case, they ensure that what they provide their children with is ethical and valid and can covertly be aware of what they are engaged in. (Female Teacher No.3)

However, they acknowledged that because parents are usually digital immigrants and are not competent in English, this task might be difficult for them.

Yes, it is a difficult task because we cannot say for sure what is valid and what is not in the virtual world, especially about foreign language resources, so it's better to get help from an expert if possible. (Male Teacher No.2)

Jointly Engage in the Use of Educational Tools

Joint negotiation and a collaborative effort to navigate the digital landscape increases intimacy between parents and their children (Courtois & Nelissen, 2018). This factor might also resemble a co-use or 'joint media engagement' strategy (Takeuchi & Stevens, 2010).

I sometimes sit beside my son when he takes part in online classes, to see how it works, and I see that he answers teacher's questions with more confidence. (Mother No.8)

My father is learning English through the Zabanshenas app. When he studies, I sit next to him to learn how he uses the application. (Female Learner No.7)

It mostly pertains to parents who are at least somehow familiar with electronic platforms, especially the Internet, and have a basic understanding of English and language learning applications.

My mother and I schedule different sessions to practice English through the Duolingo website. She is a language teacher at school and helps me a lot. (Male Learner No.4)

Collaborate With Language Teachers

This issue was exceptionally highlighted by teachers. They emphatically noted that parents should maintain a connection with teachers if they want to manage their children's online learning and remain informed about their progress.

I think parents should take part in parent-teacher forums and stay informed about their children's learning progress. (Male Teacher No.3)

Collaboration between teachers and parents is very important in virtual learning because we can introduce user-friendly apps for language learning, and parents can learn how to use them. But sadly, parents don't take this seriously. (Female Teacher No.1)

Nevertheless, according to them, this issue is not mostly taken seriously by parents, especially those who don't have a high educational level and don't get involved in their child's learning process.

Some parents don't take it seriously and show little interest in interacting with teachers. (Male Teacher No.3)

Discussion

The present study aimed to investigate strategies that contribute to the promotion of digital parenting practices to foster Iranian EFL learners' self-efficacy in online learning of English. Initially, a correlational analysis was conducted to uncover any significant relationships between parental mediation strategies and learners' self-efficacy in online learning. Following that, multiple linear regression analysis was carried out to assess whether each of these strategies can act as a significant predictor of online learning self-efficacy. The results indicated that all three parental mediation strategies—restrictive mediation, active mediation, and monitoring—were significantly correlated with learners' online learning self-efficacy. Restrictive mediation and monitoring were found to be negatively correlated with it and significantly predicted it. This indicated that high levels of restriction and close inspection of learners' online activities inhibit and deter their online opportunities.

Aligning with this is an extensive body of research confirming that excessive control and restriction can inhibit online opportunities and deprive children and adolescents of developing digital skills and autonomy (Beyens et al., 2022; Festl, 2021; Livingstone et al., 2017; Steinfeld, 2021). The correlational analysis also exhibited a higher negative correlation on the part of

monitoring in comparison to restriction, especially considering that monitoring involves parents' closer inspection of learners' online activities (e.g., knowing their online passwords). This can be regarded as a great hindrance to their autonomy, which is something they mostly claim in this age (Chen & Chng, 2016; Symons et al., 2017b; Young & Tully, 2022), considering the fact that they are more overt and adolescents easily recognize them.

The analyses further revealed a significant positive correlation on the part of the active mediation, establishing it as a significant predictor of learners' online learning self-efficacy. Although it cannot be denied that parents tend to employ active mediation more frequently with technologically competent children (Nikken & Schols, 2015), a substantial body of research supports the idea that it has a facilitative role in optimizing online opportunities (Cabello-Hutt et al., 2018; Valkenburg et al., 2013) and enhances learning-related Internet use (Chen & Shi, 2019; Ren & Zhu, 2022), thereby confirming this finding.

Leveraging the quantitative findings to explore which parental mediation strategies best satisfy the demands of Iranian EFL learners' online learning self-efficacy, the qualitative phase was subsequently carried out. Insights gathered from interviews provided a deeper understanding of factors not captured quantitatively. The findings from both the quantitative and qualitative data analysis can lead to similar conclusions about what counts as effective parenting practices in approaching the issue of online learning self-efficacy. The interviews revealed themes that can significantly contribute to the enhancement of EFL learners' self-efficacy in learning English online by providing a supportive learning environment for them.

Themes, which center around collaborative parent-child online activities and parents' proactive involvement in learners' online learning process, like 'co-build technical expertise,' 'actively participate in the learning process,' 'jointly engage in the use of educational tools,' and 'introduce online language resources,' reflect the practices of parents who adopt active and enabling parental mediation (Beyens et al., 2022; Clark, 2011; Kuldass et al., 2021; Livingstone et al., 2017). Active mediation has been shown to foster critical thinking (Fujiko & Austin, 2002), and a positive attitude toward technology (Nikken & Jansz, 2014), two other factors also identified in the present study. Moreover, they underscore Vygotsky's (1978) theory of social development and Clark's (2011) participatory learning strategy in that they both emphasize the role of social interaction and parent-child collaboration in optimizing learning through technological tools in online environments.

Themes such as 'be a tech-positive parent' and 'be a good role model' are considered as the characteristics of good digital parents (Heitner, 2016). This aligns with previous research demonstrating that parents' attitudes toward technology promote their children's self-efficacy in utilizing technological devices and successfully engaging in online learning (Gao et al., 2021; Hammer et al., 2021; Prior et al., 2016; Yavuzalp & Bahcivan, 2020). Furthermore, the identification of the 'nurture autonomy' theme as another contributing factor was also in line with studies revealing that parents who grant adolescents autonomy can encourage positive technology use and help foster online opportunities (Fikkers et al., 2017; Lim, 2018; Meeus et

al., 2018; Valkenburg et al., 2013). This can be reflected in learners' capacity to manage time independently in online learning platforms, which helps facilitate and pave the way for their successful e-learning process (Ahmadipour, 2022; Taipjutorus et al., 2012).

Interestingly, three remaining themes—'create a calm learning environment,' 'teach proper use etiquettes', and 'collaborate with language teachers'—were frequently mentioned, even though interview questions sidelined them because they were not as prominently featured in parental mediation research. The first theme was dominantly stressed by learners, while the two other themes were most significantly emphasized by teachers. One possible reason might be that parental mediation primarily focuses on parents' apprehensions about their children's exposure to inappropriate content and their attempt to mitigate online risks. It often overlooks children and adolescents' agency, which means prioritizing their needs without necessarily considering the family's traditional authority structures (Clark, 2011). Establishing a calm, educational environment for online learners can serve as a crucial strategy for nurturing their mental and emotional well-being. As parents' emotional support is recognized as a vital factor in improving English language skills (Xu & Jin, 2024), it holds significant relevance in remote learning contexts as well (Tao & Gao, 2022).

With regard to the 'collaborate with language teachers' theme, it is important to highlight that while parents play an essential role in providing their children with adequate educational resources, they should not navigate the digital parenting journey alone. They require assistance from experts, particularly when they lack the necessary technological and subject knowledge. Who better to offer this support than teachers? According to Sayer and Braun (2020), collaboration between language teachers and parents helps them enhance their understanding of language learners' learning process and provide learners with better support. Various other studies also underscore the importance of ongoing conversation and collaboration between parents and teachers (Bernauer et al., 2020; Borup et al., 2015). This is because teachers not only understand the subject but are also cognizant of the dynamics of online classes and the essential requirements for successful online learning.

Conclusion

The primary focus of this study was to identify strategies that help promote Iranian parents' digital parenting practices, aiming to foster adolescent EFL learners' self-efficacy in online English learning. The findings demonstrated that digital parenting approaches, which consider learners' agency and autonomy and promote collaborative interactions between learners and their parents, will nurture self-regulated online learners. Learners who are capable of independently and wisely cultivating online opportunities, thereby gaining competence in online learning environments. By creating an atmosphere that encourages language engagement and the healthy use of technological resources, parents can effectively facilitate their children's learning journey in the realm of foreign languages. The findings have significant contributions to the still-emerging issue of digital parenting in Iran. They offer valuable insights for parents,

helping them identify gaps in their current parental practices and reconsider and give a second thought to their approaches. By improving their digital parenting strategies, parents can become the best company for their children and adolescents in the digital age, granting them the opportunity to thrive in online learning experiences.

However, generalization of the findings needs to be treated with caution due to a number of reasons. First, the study was conducted in the context of foreign language learning in Iran, so applying the results to other educational contexts might yield different outcomes. Moreover, the sociodemographic characteristics of the participants were not considered separate variables in this research, and incorporating them could add new dimensions to the issue of digital parenting. Lastly, since the study predominantly relied on questionnaires and interviews for data collection, incorporating alternative methods, such as journal writing or observation, if feasible, might potentially enrich the findings further. Exploring the perspectives of other stakeholders like educational technologists, counselors, psychologists, and curriculum developers, or investigating the issue of digital parenting in relation to other child-related variables is highly recommended for future researchers.

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Appendix A

Online Learning Self-Efficacy Scale (OLSES)

| | Very Weak | Weak | Neutral | Confident | Very Confident |
|----|---|------|---------|-----------|-------------------|
| 1 | Navigate online course materials efficiently. | | | | |
| 2 | Find the course syllabus online. | | | | |
| 3 | Communicate effectively with my instructor via email. | | | | |
| 4 | Communicate effectively with technical support via email, telephone, or live online chat. | | | | |
| 5 | Submit assignments to an online drop box. | | | | |
| 6 | Overcome technical difficulties on my own. | | | | |
| 7 | Navigate the online grade book. | | | | |
| 8 | Manage time effectively. | | | | |
| 9 | Complete all assignments on time. | | | | |
| 10 | Learn to use a new type of technology efficiently. | | | | |
| 11 | Learn without being in the same room as the instructor. | | | | |
| 12 | Learn without being in the same room as other students. | | | | |
| 13 | Search the Internet to find the answer to a course-related question. | | | | |
| 14 | Search the online course materials. | | | | |
| 15 | Communicate using asynchronous technologies (discussion boards, email, etc.). | | | | |
| 16 | Meet deadlines with very few reminders. | | | | |
| 17 | Complete a group project entirely online. | | | | |
| 18 | Use synchronous technology to communicate with others (such as Skype). | | | | |
| 19 | Focus on schoolwork when faced with distractions. | | | | |
| 20 | Develop and follow a plan for completing all required work on time. | | | | |
| 21 | Use the library's online resources efficiently. | | | | |
| 22 | When a problem arises, promptly ask questions in the appropriate forum (email, discussion board, etc.). | | | | |

Appendix B

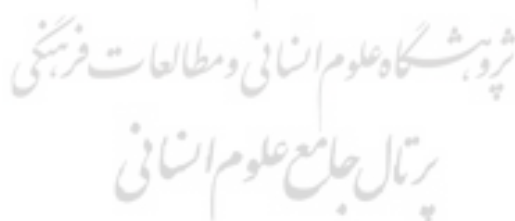
Parental Mediation for Adolescents' Internet Usage Scale-Adolescent Form (PMS-A)

| | Never | Hardly Ever | Sometimes | Often | Always |
|----|-------|-------------|-----------|-------|--------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
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Appendix C

EFL Learners' Interview Questions

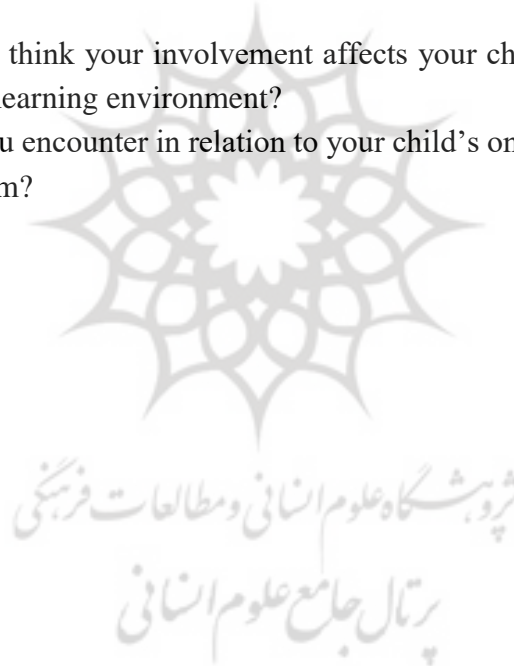
1. Do you use any social media platforms and language learning applications? How did you discover them?
2. How do your parents feel about technology? Do they typically embrace it or are they more skeptical about its use? What are their reasons for this perspective?
3. How often do you discuss your online learning experiences with your parents, and what kind of feedback do they provide?
4. Have you ever faced challenges in your online language classes that you think were beyond your ability to solve? How did you manage to solve them?
5. Did your parents take an active role in solving those problems? If not, how could their support be useful in overcoming them?
6. How do your parents engage in your online learning? Can you give an example of something they did that encouraged you and helped you feel more confident and motivated?
7. What is it that your parents do that discourages you from engaging in online language classes?
8. What suggestions do you have for your parents to help improve your online learning experience and be successful in your online language classes?



Appendix D

Parents' Interview Questions

1. What is your opinion about the Internet and digital media? How important are they in your daily life?
2. Are there any social media platforms or other applications and software that you rely on for your work?
3. What parenting techniques do you think are more effective in managing your child's technology use?
4. Which techniques fail to meet your expectations regarding your child's beneficial technology use? What is the main problem with them?
5. How do you feel about online education? Do you think online learning is better or traditional face-to-face learning? What makes you favor one over the other?
6. What do you do to enhance your child's motivation and confidence in their online language classes?
7. In what ways do you think your involvement affects your child's belief in their ability to succeed in an online learning environment?
8. What obstacles do you encounter in relation to your child's online language learning? How do you overcome them?



Appendix E**EFL Teachers' Interview Questions**

1. Based on your experience, what is the role of parents in their children's success in online language classes?
2. Could you share any experience about effective parenting practices you have observed among parents with regard to their child's technology use?
3. What are the most common challenges EFL learners face in online language classes?
4. In what ways do these challenges affect their self-concept in learning through online platforms?
5. What is the role of parents in alleviating these challenges?
6. What obstacles do educators face in promoting parent participation in online learning environments?
7. What aspects of Iranian parents' parenting behaviors make learners reluctant to engage in online language classes?
8. What do you believe are the most effective strategies for involving parents in their child's online education?
9. Has your institution considered any programs or plans for enhancing parental engagement in learners' online language learning? If not, what suggestions do you have to encourage such involvement?

