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Comparison of Family Emotional Atmosphere, Family Flexibility, Academic Achievement, Academic Procrastination, and Perception of Academic Self-Efficacy Between Students with Learning Disabilities and Regular Students

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ABSTRACT

Purpose: This study aims to compare the family emotional atmosphere and flexibility, academic achievement, academic procrastination, and perception of academic self-efficacy between students with learning disabilities and regular students.

Methods and Materials: The statistical population included third- and fourth-grade students from Dhi Qar Province during the 2024 academic year, from which 250 students (125 students with learning disabilities and 125 regular students) were selected through multi-stage cluster random sampling. Data were collected using the Family Emotional Atmosphere Questionnaire (Hillburn, 1964), Family Flexibility Questionnaire (Shakeri, 2003), Academic Achievement Scale (Wells, 2010), Academic Procrastination Scale (Solomon & Rothblum, 1984), and Academic Self-Efficacy Scale (Jinks & Morgan, 1999), and were analyzed using one-way analysis of variance (ANOVA).

Findings: The research findings indicated a significant difference ($p < .01$) between students with learning disabilities and regular students in terms of family emotional atmosphere, family flexibility, academic achievement, academic procrastination, and perception of academic self-efficacy. Specifically, students with learning disabilities reported lower levels of family emotional atmosphere, family flexibility, academic achievement, and academic self-efficacy, and higher levels of academic procrastination.

Conclusion: Overall, the results of this study showed that the family functioning of students with learning disabilities is in a less favorable state compared to the families of regular students. This situation can have negative and destructive effects on their children's self-efficacy beliefs, self-worth, and academic performance. Therefore, families and caregivers of children with learning disabilities can benefit from participating in advanced educational programs to gain a comprehensive understanding of the disorder.

Keywords: Family Emotional Atmosphere, Family Flexibility, Academic Achievement, Academic Procrastination, Academic Self-Efficacy, Learning Disabilities, Students, Dhi Qar, Iraq.

1. Introduction

Learning disabilities are a heterogeneous group of disorders that can affect the acquisition, organization, retention, understanding, or use of verbal or non-verbal information. Reading, writing, and mathematical skills can all be impacted by learning disabilities (Enayati Shabkolai et al., 2023; Tiengsomboon & Luvira, 2024). In addition to the risk of academic deficits and related social, emotional, and behavioral functional issues, individuals with learning disabilities often face poorer long-term social and occupational outcomes (Grigorenko et al., 2020). The term "learning disabilities" does not only refer to children with special needs; it also emphasizes the need to identify and assist students who consistently experience academic decline. Early diagnosis, focusing on identifying children at risk of learning disabilities and preventing problems before they manifest, has been a significant area of research (Sahu et al., 2018).

The number of students with learning disabilities has exponentially increased over the past decades. Consequently, parents face unique challenges in raising their children. Research on family functioning has highlighted significant differences between families of students with learning disabilities and families of regular students (Heiman, 2006; Heiman et al., 2008). One critical family variable in this context is the family emotional atmosphere. The family emotional atmosphere refers to how family members communicate and interact with one another, their feelings, attitudes toward each other, and the extent of involvement or non-involvement in each other's activities, including cooperation or competition among family members (Fakhariyan et al., 2019). Research evidence shows that mothers of such children may experience poor mental health and emotional disturbances (İzoğlu-Tok & Doğan, 2024). Research also indicates a lower quality of relationships between children and parents in these families (Ginieri-Coccossis et al., 2013), and parents report feelings of vulnerability, guilt, shame, fear, and panic (Connor & Cavendish, 2018). Raising a child with learning disabilities can increase parental stress, disrupt parental self-efficacy, psychological well-being, and interaction with the child (Finardi et al., 2022). Priego-Ojeda and Rusu (2023) examined emotional regulation, parental stress, and family functioning in families of children with disabilities compared to regular families. Results showed higher levels of parental stress, more interparental conflict, and less

satisfaction in relationships among families of children with disabilities (Priego-Ojeda & Rusu, 2023).

Another family variable that can be negatively affected by learning disabilities is family flexibility. Family flexibility refers to the family's ability to change its structure and rules in response to demands (Knop & Brewster, 2016). This concept originates from the Circumplex Model based on family systems theory, which describes family dynamics through three dimensions (family cohesion, flexibility, and communication) (Olson, 2000; Olson et al., 2019). Studies have shown the role of factors such as maternal cohesion, parental frustration, family adversity or disorganization, and family cohesion in learning disabilities. Families of children with disabilities face multiple challenges, including higher stress levels, increased conflict, and lower satisfaction in marital relationships (Priego-Ojeda & Rusu, 2023). Parents of children with disabilities report more stress and feelings of failure, which may reduce their self-efficacy and negatively affect their mental health (Olson, 2000; Olson et al., 2019). Research evidence from qualitative studies on family flexibility regarding the acceptance of children with learning disabilities shows that these parents are not only concerned about the academic problems their children experience in school but are more worried about the social and emotional challenges their children will face due to the disability. When these parents observe their children's poor interactions with other children in and outside of school, they report significant stress (Pentyluk, 2002). These parents often display negative attitudes and responses to their children's learning disability diagnosis, including rejection, denial, overprotection, frustration, lack of knowledge, and adaptability issues (Sahu et al., 2018).

Students with learning disabilities also face challenges and academic impairments related to attention, inhibition, and self-monitoring. They are noted for their personal history of school-related frustrations and anxiety, along with internalizing symptoms related to anticipating potential academic failure (Ben-Naim et al., 2019). Students with learning disabilities tend to attribute learning difficulties to their shortcomings and attribute learning achievements to external factors unrelated to their effort. Consequently, they are more likely to have motivational problems that affect their academic performance (Graham et al., 2017). Parents of children with learning disabilities report that their children have lower motivation and care less about earning good grades (Janikowski & Norvilitis, 2020). Research conducted on Iraqi students has shown that they experience academic learning difficulties, behavioral problems, speech issues

(Janikowski & Norvilitis, 2020; Mohtasham et al., 2023), high levels of academic procrastination, and low levels of satisfaction with academic life (İzoğlu-Tok & Doğan, 2024).

The findings demonstrate the negative impact of academic procrastination on GPA for students with learning disabilities, which negatively affects their academic performance (Goroshit & Hen, 2021; Omale, 2024). According to Steel (2007), procrastination refers to delaying one or more activities, both at the start and in development or completion, engaging in other less important or even unnecessary activities that prevent their timely completion (Steel, 2007). In education, academic procrastination is a deficiency in decision-making and conflict resolution, which arises when students decide whether to meet the demands of the environment or complete academic assignments (Almurumudhe et al., 2024; Ayala et al., 2020; Emami Khotbesara et al., 2024; Mahvash et al., 2024). It includes postponing or avoiding academic tasks and is associated with poor self-regulation, forgetfulness, and rigid thinking. It also reflects an individual's need to perform a task or activity or complete a project but cannot find the motivation to complete it on time (Enayati Shabkolai et al., 2023; Khalifa, 2023). The results show that students with learning disabilities report higher levels of fatigue compared to their non-learning-disabled peers. This outcome emphasizes the debilitating consequences learning disabilities may have on students, such as feeling drained and exhausted when facing academic challenges. Unsurprisingly, students who reported fatigue also had lower academic self-efficacy (Ben-Naim et al., 2019), confirming Palmer's (2013) study that showed significant negative effects of fatigue on participants' learning and cognitive performance. Compared to non-learning-disabled students, students with learning disabilities reported lower mental vitality and fewer positive interpersonal relationships (Palmer, 2013). A lack of positive emotional experiences beyond the issues related to learning disabilities leads to successive failures, aggression, impulsive behaviors, disruptive behaviors, and lower academic vitality (Mohtasham et al., 2023), which is associated with academic procrastination (Niazov et al., 2022).

Another educational variable related to learning disabilities is academic self-efficacy. Research evidence shows that students with learning disabilities have lower levels of academic self-efficacy (Kausik & Hussain, 2023; Niazov et al., 2022). Academic self-efficacy refers to specific personal beliefs about one's ability to organize, regulate, and execute actions to achieve desired levels of

academic performance (Zimmerman et al., 1992). Accordingly, students with learning disabilities face challenges such as self-motivation and time management (Hyman, 2006), and are less likely to graduate from college compared to their peers (Aikhomu, 2015; Fakhariyan et al., 2019), while experiencing lower self-worth (Shany et al., 2013). Research evidence shows that students with learning disabilities have poorer academic discipline, mental vitality, and academic vitality than non-disabled students (Mohtasham et al., 2023), and lower academic self-efficacy (Kausik & Hussain, 2023).

In summary, students with learning disabilities pose numerous challenges for families, and the unique conditions associated with these disabilities place greater demands on families. Consequently, factors such as parental stress and parent-child conflict can have detrimental effects on family cohesion and emotional atmosphere, preventing optimal family functioning from positively influencing children's self-efficacy and academic performance. Therefore, this study aimed to compare the family emotional atmosphere, family flexibility, academic achievement, academic procrastination, and perception of academic self-efficacy between students with learning disabilities and regular students in Dhi Qar, Iraq.

2. Methods and Materials

2.1. Study Design and Participants

The present study is an applied research in terms of its aim and falls under descriptive research in terms of data collection. More specifically, it is a correlational study based on structural equation modeling. The population of this study consisted of all third- and fourth-grade students in Dhi Qar Province during the 2024 academic year. According to statistics provided by the Department of Education, there are 9,756 students enrolled in the third and fourth grades during the 2024 academic year. From this population, a total of 250 students (125 students with learning disabilities and 125 regular students) were selected through cluster random sampling.

2.2. Measures

2.2.1. Family Emotional Atmosphere

In this study, the 16-item Family Emotional Atmosphere Questionnaire by Hillburn (1964) was used to assess family emotional atmosphere. This questionnaire measures eight dimensions: affection, caressing, affirmation, shared

experiences, gift-giving, encouragement, trust, and a sense of security, using even-numbered questions to assess the father-child relationship and odd-numbered questions to assess the mother-child relationship. The items are scored on a 5-point Likert scale (ranging from 1 = very low to 5 = very high), with total scores ranging from 16 to 80. Higher scores indicate a favorable emotional atmosphere in the family, while lower scores suggest a weaker family emotional atmosphere. Content validity was confirmed by experts, and reliability was measured using Cronbach's alpha and test-retest methods, yielding coefficients of .87 and .93, respectively, as reported by Dinkelman and Boff (2016). In the study by Asghari and Meshkani (2023), the Cronbach's alpha reliability was reported as .93 (Asghari & Meshkani, 2023). In the present study, the Cronbach's alpha reliability was .75.

2.2.2. Family Flexibility

The 16-item Family Flexibility Questionnaire by Shakeri (2003), adapted from Olson's (2000) Circumplex Model of family functioning, was used to measure family flexibility. The items are scored on a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Total scores range from 16 to 80, with higher scores indicating greater family flexibility. The reliability and validity of this questionnaire were confirmed in Shakeri's (2003) study on 48 participants. The Cronbach's alpha reliability for this scale was reported as .89. The factor analysis of this questionnaire yielded a single general factor, labeled flexibility. In Zare and Samani's (2008) study, the test-retest reliability was reported as .76 after a one-week interval with a sample of 30 participants. Internal consistency was used to estimate validity, and all coefficients were reported as significant (Zare & Samani, 2008). In the present study, the Cronbach's alpha reliability was .71.

2.2.3. Academic Achievement

To assess academic achievement, the 39-item Academic Achievement Questionnaire by Wells (2010) was used. This questionnaire includes 10 components: general academic skills (items 1–7), instructor efficiency (items 8–11), career decision-making (items 12–14), external motivation for the future (items 15–18), trust (items 19–23), personal adjustment (item 24), self-regulation (items 25–27), socialization (items 28–31), intrinsic motivation (items 32–36), and absence of anxiety (items 37–39). Items are scored on a 4-point Likert scale (ranging from 1 = strongly disagree

to 4 = strongly agree). Items 9, 10, 11, 19, 24, 26, 27, 28, 29, 30, 31, 36, 37, 38, and 39 are reverse-scored. Total scores range from 39 to 156, with higher scores indicating greater academic achievement. In the study by Adib Haji Bagheri et al. (2015), the Cronbach's alpha reliability for the Academic Achievement Questionnaire was reported as .76 (Adib Haji Bagheri et al., 2015). In the present study, the Cronbach's alpha reliability was .79.

2.2.4. Academic Procrastination

To assess academic procrastination, the 27-item Academic Procrastination Questionnaire by Solomon and Rothblum (1984) was used. This questionnaire measures procrastination in three areas: task preparation, exam preparation, and midterm report preparation. Items are scored on a 5-point Likert scale (ranging from 5 = always to 1 = never). Items 2, 4, 6, 11, 13, 15, 16, 23, and 25 are reverse-scored. Total scores range from 27 to 108, with higher scores indicating higher levels of academic procrastination. In the study by Solomon and Rothblum (1984), the internal consistency reliability was reported as .64, and the validity was measured using internal correlation, yielding a coefficient of .84 (Solomon & Rothblum, 1984). In the study by Nikoukar et al. (2021), the Cronbach's alpha reliability was .84 (Nikoukar et al., 2021). In the present study, the Cronbach's alpha reliability was .84.

2.2.5. Academic Self-Efficacy

To assess academic self-efficacy, the 30-item Academic Self-Efficacy Questionnaire by Jinks and Morgan (1999) was used. This questionnaire consists of three subscales: ability, effort, and context. Of the 30 items, 9 items assess ability, 10 items assess effort, and 11 items assess context. Items are scored on a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Items 15, 16, 19, 20, 22, and 23 are reverse-scored. Total scores range from 26 to 130, with higher scores indicating higher academic self-efficacy. In the study by Jinks and Morgan (1999), the Cronbach's alpha reliability for the total scale was .82, and the subscale reliabilities were .78 for ability, .66 for effort, and .70 for context (Jinks & Morgan, 1999). In the study by Karimzadeh and Mohseni (2006), the Cronbach's alpha reliabilities were .78 for ability, .66 for effort, .70 for context, and .82 for the total scale (KarimZade & Mohseni, 2006). In the present study, the Cronbach's alpha reliability was .70.

2.3. Data Analysis

For inferential data analysis, one-way analysis of variance (ANOVA) was used, and the data were analyzed using SPSS21 software.

3. Findings and Results

Table 1

Descriptive Statistics of Research Variables

Group of Students	Regular (M ± SD)	With Learning Disabilities (M ± SD)
Academic Self-Efficacy	97.93 (10.25)	86.84 (7.41)
Academic Procrastination	46.79 (5.81)	73.37 (5.63)
Academic Achievement	86.61 (10.08)	78.45 (7.97)
Family Emotional Atmosphere	108.51 (9.95)	65.79 (8.38)
Family Flexibility	56.58 (5.14)	38.62 (5.43)

According to the results in [Table 1](#), the mean scores for academic self-efficacy, academic procrastination, academic achievement, family emotional atmosphere, and family flexibility in the group of regular students were 97.93, 46.79, 86.61, 108.51, and 56.58, respectively. In the group of

In this study, 63 regular female students, 63 female students with learning disabilities, 62 regular male students, and 62 male students with learning disabilities participated. The ages of 50 regular students were 9 years, 65 regular students were 10 years, and 10 regular students were 11 years old. Additionally, 64 students with learning disabilities were 11 years old, and 61 students with learning disabilities were 12 years old.

students with learning disabilities, the mean scores for these variables were 86.84, 73.37, 78.45, 65.79, and 38.62, respectively. To test the research hypotheses, one-way analysis of variance (ANOVA) was conducted, and the results are presented in [Table 2](#).

Table 2

Results of One-Way Analysis of Variance (ANOVA) for Research Variables

Variable	Source	Sum of Squares	Df	Mean Square	F	Significance Level
Academic Self-Efficacy	Between Groups	7695.07	1	7695.07	96.03	.001
	Within Groups	19872.28	248	80.13		
	Total	27567.36	249			
Academic Procrastination	Between Groups	10956.1	1	10956.1	334.41	.001
	Within Groups	8124.89	248	32.76		
	Total	19080.99	249			
Academic Achievement	Between Groups	56460.19	1	56460.19	683.02	.001
	Within Groups	20500.24	248	82.66		
	Total	76960.43	249			
Family Emotional Atmosphere	Between Groups	5299.2	1	5299.2	62.58	.001
	Within Groups	20998.96	248	84.67		
	Total	26298.16	249			
Family Flexibility	Between Groups	4169.76	1	4169.76	148.92	.001
	Within Groups	6943.92	248	28.0		
	Total	11113.68	249			

Based on the results in [Table 2](#), there is a significant difference between the two groups of regular students and students with learning disabilities in terms of academic self-efficacy, academic procrastination, academic achievement, family emotional atmosphere, and family flexibility ($p < .01$). Therefore, the research hypothesis is confirmed. Considering the mean scores of the two groups, regular students had higher levels of academic self-efficacy,

academic achievement, family emotional atmosphere, and family flexibility, while they exhibited lower levels of academic procrastination compared to students with learning disabilities.

4. Discussion and Conclusion

This study aimed to compare the family emotional atmosphere, family flexibility, academic achievement, academic procrastination, and perception of academic self-efficacy between students with learning disabilities and regular students. The findings revealed that students with learning disabilities experience a negative family emotional atmosphere. This finding is consistent with the results of Prego-Ojeda and Rusu (2023). To explain this, it can be argued that the family is the child's primary environment, which interacts with the individual characteristics of its members (Priego-Ojeda & Rusu, 2023). Olson (2000) defined cohesion and adaptability as two main parameters for evaluating family functioning (Olson, 2000). Cohesion refers to the level of connection, intimacy, and involvement between family members, while adaptability reflects the family's ability to change in response to developmental and external pressures (Navabinejad et al., 2024; Olson et al., 2019). A family system is considered balanced when it demonstrates moderate scores in these two dimensions and may be seen as a protective factor. Parents of children with disabilities may be prone to psychological distress, such as anxiety, sleep disorders, and frustration when dealing with their children's behavioral issues (Beckers et al., 2021). For instance, a study by Caley (2012) showed that mothers, as the primary caregivers of children with disabilities, experience higher levels of stress. This stress may stem from managing the challenging behavior and special needs of their children. Prolonged stress due to dealing with daily life challenges and the diverse and demanding needs of their children can affect family functioning and well-being (Caley, 2012). Characteristics related to learning disabilities, such as deficits in information processing, may also affect the relationships between parents and their children with learning disabilities (Cheng & Lai, 2023). Studies show that parents who experience higher levels of stress interact with their children differently and respond differently to their children's problematic behavior compared to parents experiencing lower stress levels (Dervishaliaj, 2013).

The presence of differences between the two groups of students with learning disabilities and regular students in terms of family flexibility was confirmed. To explain this finding, it can be stated that having a child with a learning disability often affects family functioning and brings significant changes to family life. Children with learning disabilities may cause a range of negative effects, such as family stress, parental conflict, negative reactions among

family members, and communication issues with schools. It can be argued that the demands parents face due to their child's problems, and their efforts to improve the child's situation as the main goal, may lead to the sacrifice of personal goals, focusing solely on the child, and consequently, distancing and conflict between parents. Factors such as a mother spending too much time and energy on the child with a learning disability, lack of attention to the father, anxiety and depression of both parents due to concerns about the future of the child, blaming each other for the child's disability, and complaints due to a lack of support can cause family tension and result in marital dissatisfaction (Matin et al., 2018). Parents of children with disabilities report lower satisfaction with their parenting compared to parents of children without learning disabilities (Janikowski & Norvilitis, 2020).

Similar to other studies, the findings of the present study showed that students with learning disabilities report higher levels of academic stress and lower levels of academic achievement compared to students without learning disabilities, consistent with the prior results (Janikowski & Norvilitis, 2020; Mohtasham et al., 2023; Niazov et al., 2022). A study by Aikhomu (2015) also showed that students with learning disabilities scored lower on self-efficacy scales, regardless of the students' gender (Aikhomu, 2015). This finding can be explained by noting that students with learning disabilities face educational challenges related to difficulties in processing verbal or written information, which affect their ability to "listen, think, speak, read, write, spell, or perform mathematical calculations." They also encounter social barriers at school, including more frequent rejection and isolation from peers, and experience greater loneliness (Bruefach & Reynolds, 2022). Another factor contributing to the lower academic achievement of children with learning disabilities is their parents' expectations of success. Parents of students with learning disabilities may have lower expectations for their children, which in turn can negatively affect the children's academic performance. It is possible that students who are expected to achieve less are less motivated and generally care less about their education (Janikowski & Norvilitis, 2020). According to the Conservation of Resources Theory, individuals tend to experience stress when they invest resources but do not receive the expected return (Hobfoll, 2001). Therefore, learning disabilities may be considered a source of stress in educational environments, leading to increased fatigue and academic burnout.

The findings of this study also showed that students with learning disabilities exhibit higher levels of academic procrastination compared to regular students, consistent with the results of Niazov et al. (2021). In this context, it can be said that throughout their educational journey, students with learning disabilities experience more difficulties than students without learning disabilities, which at times leads to increased procrastination (Niazov et al., 2022). Students with learning disabilities often procrastinate as a way to avoid academic problems and fears, and some of these students use procrastination as a mood regulation strategy in the present, at the expense of their future. Their tendency to delay or avoid the difficulty of completing academic tasks can further increase negative emotions, decrease future self-efficacy, and reduce their ability to regulate negative emotions, leading to poorer academic performance (Goroshit & Hen, 2021).

Another finding of this study was the significant difference in academic self-efficacy between students with learning disabilities and regular students. This finding is consistent with a previous study (Kausik & Hussain, 2023). These findings may also indicate that students with learning disabilities experience a more controlling and less autonomous academic environment. It can be argued that the label "students with disabilities" not only carries a stigma but is also accompanied by the belief that these students may not be as capable as their non-disabled peers. These beliefs may be internalized by students with learning disabilities, leading to decreased academic motivation. Furthermore, the lack of positive feedback and an overly controlling academic environment prevent the fulfillment of basic psychological needs (Kausik & Hussain, 2023). Grolnick and Ryan (1990) noted that teachers themselves reported exerting more control over students with learning disabilities. This again suggests that students with learning disabilities enjoy less autonomy than others (Grolnick & Ryan, 1990). This undoubtedly affects their academic motivation and leads them to be less motivated compared to students without disabilities. In the present study, students with learning disabilities scored lower in academic self-efficacy compared to students without learning disabilities, indicating that they do not perceive themselves as highly skilled in academic tasks. This means that they avoid situations and tasks in which they believe they are not competent, in this case, academic tasks. Thus, this partly explains the lower academic motivation scores of students with learning disabilities. They had lower academic motivation compared to students without learning disabilities. Their academic

self-efficacy may also influence their academic motivation to some extent. Since they perceive themselves as lacking the capacity to excel in academics, they may avoid academic tasks altogether, leading to lower motivation (Kausik & Hussain, 2023).

Overall, the findings of the present study showed that students with learning disabilities are not in a favorable educational and academic position, and their families typically face higher levels of stress and psychological pressure. This pressure may stem from concerns about their child's academic progress, social problems, or the need for special support, which in turn may lead to a negative family emotional atmosphere. Based on this, it is recommended that researchers design and implement intervention programs and workshops on skills for reducing academic procrastination and addressing academic problems, to enhance the academic and emotional well-being of learners. In general, education systems should incorporate academic self-efficacy into their programs to encourage students to take responsibility for their own learning. Therefore, based on the findings of this study and the teachability and learnability of these strategies, it is crucial to educate students, particularly those with learning disabilities, on these strategies so that they become aware of what is needed for learning, achieve success in academic tasks, and become more motivated to pursue academic progress.

It is important to note that the cross-sectional nature of this study is a limitation, as it reduces the ability to infer long-term causal relationships between the variables, considering cultural and even educational changes. Another limitation relates to the specific sample of students from Dhi Qar Province, which limits the generalizability of the results to other students, educational centers, and academic levels. Therefore, it is suggested that future researchers explore this topic in different times and settings and compare their findings with those of the present study.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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