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Causes and effects of occupational fatigue among special education teachers*

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ABSTRACT

This study explores the multifaceted nature of occupational fatigue among special education teachers, highlighting its manifestation through low performance, lack of motivation, emotional exhaustion, and a sense of monotony. In the research, phenomenology design within qualitative methodology was utilised. The study group consists of a total of 10 special education teachers working in 7 different schools in the provincial centre of Düzce, who were determined by convenient sampling technique. In the study, data were collected face-to-face with a semi-structured interview form in the autumn term of the 2023-2024 academic year. Content analysis was used to analyse the data. As a result of the analysis, a total of three main themes were identified. These themes are "Definition and Symptoms of Occupational Fatigue", "Causes and Sources of Occupational Fatigue" and "Occupational and Personal Effects of Occupational Fatigue". According to the findings, special education teachers experience professional fatigue due to difficult conditions in schools, excessive workload, and low learning speed of students. Occupational fatigue has a negative impact on the physical and mental health of special education teachers. In order to overcome this kind of fatigue, strategies such as resting, engaging in various hobbies, and orienting towards professional development are preferred. The findings of the research show that this situation has the potential to lead to more negative results if the professional fatigue of special education teachers is not eliminated.

Keywords: Occupational fatigue, special education, teacher burnout

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Introduction

Occupational fatigue of teachers is a multifaceted condition characterized by low performance, lack of motivation, inability to renew oneself and a sense of monotony in professional life (Argon & Koçak, 2019; Kalekin-Fihisman, 1986). This state of fatigue is not only a physical or mental exhaustion, but also includes emotional exhaustion, leading to decreased job satisfaction, increased emotional exhaustion, and reduced quality of teaching (Hagenest et al., 2023). The pressures and challenges of the teaching profession contribute significantly to this condition, affecting teachers' ability to engage effectively with their students and fulfil their educational role. To address and mitigate the effects of teacher fatigue, it's important to understand and implement strategies that focus on improving well-being, reducing stress and preventing burnout (Agyapong et al., 2023; Pyhältö et al., 2021). Research shows that teachers' well-being is directly related to their performance and the quality of education they provide (Hascher & Waber, 2021). Increased stress and decreased well-being can significantly affect academic staff's ability to function effectively, highlighting the need for supportive measures to improve their mental and emotional health (Günbayı, 2014).

Strategies to overcome professional fatigue include identifying and addressing the causes of monotony and lack of motivation. This includes taking proactive steps to diversify tasks, incorporate innovative teaching methods, and foster a supportive school culture that values and supports teachers' development and well-being (Caldwell et al., 2019). In addition, recognizing the symptoms of depression and anxiety, which are often associated with a lack of motivation, is essential for early intervention and support (Youngs, 1978). In addition, recognizing symptoms of depression and anxiety, which are often associated with a lack of motivation, is essential for early intervention and support (Youngs, 1978). Teachers working in special education are more likely to experience psychological stress than those working in mainstream education. This is due to the diverse disabilities of their students and the increased responsibility of meeting the needs and expectations of their families (Kocaman, 2018). Special education is a personalized educational practice designed to meet the unique differences, disabilities and special needs of students (Vaughn & Linan-Thompson, 2003). It is specifically aimed at individuals who, due to various disabilities or learning problems, face greater learning challenges than their peers (Kırmızıgül, 2022). The term “special educational needs” refers to children whose learning difficulties or disabilities make their learning process more challenging than that of most children of their age (Aktan, 2020). This approach to education ensures that students with special needs receive an education that is not only accessible but also equitable, enabling them to reach their full potential. Special education services may include individualised instruction, technological aids, therapy services, and adaptations of curriculum and teaching methods to meet the diverse learning styles and needs of students (Algozzine & Ysseldyke, 2006). Students receiving special education services have unique needs and expectations that must be met to ensure their academic and social success. Special education is designed to provide tailored instruction and interventions to meet the diverse learning needs of these students. Students with special needs often display challenging behaviours, emotional difficulties, and complex learning profiles, that requires specialized expertise and greater emotional effort on the part of teachers (Thakur, 2018). Special education schools and programmes often provide a range of services beyond academic support, including therapy, counselling and life skills training to help students cope and excel both in and out of school. These services are based on alternative learning strategies and individualized education plans (IEPs) that outline specific goals and accommodations for each student (Akçin, 2022).

Special education teachers often manage large caseloads, multiple disciplines, and diverse student needs, which can lead to increased stress and workload (Hogue, 2022). Special education teachers (SETs) are particularly vulnerable to job fatigue due to the unique challenges and stressors associated with their role. Unlike their general education counterparts, SETs often work with students who have diverse needs and require individualized attention and support. Furthermore, the relationship between organizational change fatigue and the levels of stress experienced by teachers in secondary education institutions suggests that environmental and systemic factors also contribute significantly to teacher fatigue (Yıldızoğlu & Cemaloğlu, 2023). Special education settings often require frequent adjustments and adaptations to meet the needs of students, placing additional stress on teachers. Special education teachers sometimes struggle with inadequate resources, such as materials, technology, and personnel, further exacerbating stress and burnout (Jeon *et al.*, 2022; Thakur, 2018). Special Education Teachers (SETs) face a variety of stressors, including emotional exhaustion, depersonalization and a reduced sense of personal accomplishment. These stressors not only affect their well-being, but also their effectiveness in the classroom. A meta-analysis by Park (2020) highlights the critical dimensions of burnout experienced by SETs and emphasizes the need for a deeper understanding of its causes and consequences. In addition, Springer *et al.* (2023) identifies specific psychosocial stressors, such as work overload, time constraints and extended working hours, that contribute to professional burnout and chronic fatigue among academics, including those in special education.

To effectively address these challenges and support Special Education Teachers (SETs) in managing stress and preventing burnout, it is essential to implement targeted strategies that cater to their specific needs. Research suggests that stress management techniques, such as mindfulness and relaxation exercises, can significantly reduce emotional exhaustion and improve overall well-being (Sharma & Rush, 2014; Zollars *et al.*, 2019). Additionally, fostering a supportive work environment that recognizes the hard work and dedication of SETs can help in mitigating feelings of depersonalization and enhancing personal accomplishment. Organizational interventions, such as providing adequate resources, reducing workload, and offering flexible work hours, are also crucial in addressing the root causes of burnout among SETs (Fore *et al.*, 2002). Moreover, ensuring that SETs have access to professional development opportunities and training on coping mechanisms for stress and emotional exhaustion can empower them to navigate the challenges of their roles more effectively (Cancio *et al.*, 2018).

Occupational fatigue can have a significant impact on special education teachers, resulting in increased levels of burnout and reduced job satisfaction. This highlights the need to provide special education teachers with support and resources to help them manage their workload and maintain their well-being (Billingsley *et al.*, 2020). Research has shown that special educators, particularly those working with children with intellectual disabilities, experience higher levels of job stress and burnout than those working with children with hearing and visual impairments (Akgül *et al.*, 2023; Wisniewski & Gargiulo, 1997). Burnout, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, is a common outcome of occupational fatigue among special education teachers (Şen, 2023). Special education teachers often face heavy workloads and increased vulnerability to burnout due to the demanding nature of their work, which involves coping with the daily emotional, behavioral, and learning needs of special children. This can result in high turnover rates, low job performance, and strained relationships with colleagues. Therefore, it is crucial to address occupational fatigue and its impact on special education teachers to ensure their well-being and job satisfaction (Alexander, 2020). The research included the following sub-problems:

- According to special education teachers, what does occupational fatigue mean and what are its symptoms?
- What are the factors that cause professional fatigue in special education teachers?
- How does occupational fatigue affect the professional lives of special education teachers?
- How does occupational fatigue affect the private lives of special education teachers?

Method

In this part of the article, details are given about the model, the study group, the data collection tool and the process that was used in the research.

Research Model

This study was carried out using qualitative methodology. Specifically, the phenomenological design was used to explore phenomena that are not entirely unknown but cannot be fully understood. This research is within the phenomenological model, as it focuses on the meaning and implications of teachers experiencing professional fatigue in different ways. As Yıldırım and Şimşek (2016) explain, phenomenological research aims to uncover and interpret people's attitudes, perceptions or thoughts about a particular event or situation.

Study Group

The research study was conducted with a group of 10 special education teachers who were working in schools located in the central district of Düzce province during the 2023-2024 academic year. The study group was selected using a convenient sampling technique. This sampling technique was preferred in order to obtain data more quickly and easily. Table 1 presents the demographic information of the study group.

Table 1. Demographic information of study group

Code	Gender	Age	Seniority (Year)	Working Position	School Type	Students' Disability Type	Education Level
T1	Male	33	10	Tenured	Secondary S.	MMD*	Bachelor
T2	Female	36	15	Tenured	Primary S.	Autism	Bachelor
T3	Female	30	9	Tenured	Primary S	MMD	Bachelor
T4	Female	35	7	Not Tenured	Special Education Kindergarten	MOMD	Bachelor
T5	Female	42	12	Tenured	Secondary S.	MMD	Bachelor
T6	Male	26	4	Tenured	Special Ed. Application Sch.	MOMD**	Bachelor
T7	Male	24	2	Tenured	Special Education Kindergarten	Autism	Bachelor
T8	Female	24	2	Not Tenured	Secondary S.	MMD	Bachelor
T9	Female	37	12	Tenured	Primary S.	MMD	Bachelor
T10	Male	32	10	Tenured	Special Ed. Application Sch.	MOMD	Master

*MMD: Mild Mental Disability; **MOMD: Moderate Mental Disability

Table 1 shows the demographic characteristics of the sample group, which consists of 2 non-tenured (paid) teachers and 8 tenured teachers working in special education. The participants have different years of service, ranging from 2 to 15 years. One participant has a Master's degree and 9 have a Bachelor's degree. The group consisted of 6 female and 4 male teachers. The age of the participants varied between 24 and 42 years. The types of disabilities of the students that the teachers teach were as follows: 5 teachers work with students with mild intellectual disability, 3 teachers work with students with moderate intellectual disability and 2 teachers work with autistic students. The teachers were distributed among different types of schools: 3 teachers work in primary schools, 3 teachers in secondary schools, 2 teachers in kindergartens and 2 teachers in special schools.

Data Collection Tools

In this study, a semi-structured interview form developed by the researchers was used to collect data. The interview questions were designed based on a theoretical framework derived from a literature review. To assess the form's applicability, a preliminary interview was conducted with two special education teachers. Following the preliminary interview, expert opinions were sought to address issues of comprehensibility. The interview form consisted of 8 questions. Sample questions included: 'What factors cause the most professional fatigue for you?' and 'How does professional fatigue affect your personal and professional life?'

Data Collection Process

In this research, the teachers to whom the semi-structured interview form would be applied were identified and these teachers were contacted. They were informed of the subject matter and asked to make an appointment for an interview. Before the interview form was used, the teachers' concerns about the confidentiality of their answers to the interview questions were allayed. In this study, face-to-face interviews were conducted with teachers of different levels who volunteered to participate in the research. The interviews were conducted in seven different schools in the central district of Düzce province during the 2023-2024 academic year. The study adhered to the ethical principles outlined in the Directive on the Ethics of Scientific Research and Publication in Higher Education.

Data Analyses

The real names of the participants were not used as it would not be appropriate in terms of the ethics and morality of the study; the names of the teachers were coded as T1, T2, T10 were coded as T1, T2 and T10. The answers given by the participants in the interview were analyzed using descriptive analysis and content analysis. The main purpose of using content analysis is to organize similar answers according to certain concepts in a way that the reader can understand. Content analysis is to ensure that the data is processed in detail and that concepts and themes emerge in a descriptive approach (Yıldırım & Şimşek, 2016). The interview questions were developed in collaboration with experts in special education. It was ensured that all questions were relevant to the topic and adequately covered the issue of professional fatigue among special education teachers. To ensure the reliability of the research and to confirm the accuracy of the findings, the data interpretation was discussed again with the participants.

Ethics committee approval process

The ethics application for the study was made on 23/11/2023 and the research was carried out with the approval of Düzce University Ethics Commission dated 23/11/2023 and numbered 2023/369.

Results

In this part of the article, the findings and results obtained from the analysis of the research data are given.

Theme 1: Definition and Symptoms of Occupational Fatigue

As a result of the interviews, the first theme of the research was determined as "Definition and Symptoms of Occupational Fatigue". In the emergence of this theme, the participants were asked the question "What do you think professional fatigue means for teachers in the special education branch and what kind of symptoms does it have?". The answers given to this question were coded and the theme emerged with categories based on the codes. The categories and codes belonging to this theme are shown in Table 2.

Table 2. Categories and codes related to the theme of defining and symptoms of occupational fatigue

<i>Theme</i>	<i>Sub-Categories</i>	<i>Codes</i>
<i>Definition and Symptoms of Occupational Fatigue</i>	Definition Occupational Fatigue	Job Dissatisfaction
		Workload
		Chronic Situation
		Feeling Inadequate
		Complacency
	Emotional Symptoms of Occupational Fatigue	Feelings of Burnout
		Lack of Motivation
		Emotional Fatigue
		Unhappiness
		Impatience
	Physical Symptoms of Occupational Fatigue	Tension
		Physical Fatigue
		Headache
		Stomach Problems
	Mental Symptoms of Occupational Fatigue	Frequent Illness
		Mental Fatigue
		Distraction

As seen in Table 2, 4 categories and 17 codes belonging to the theme of "Defining and Symptoms of Occupational Fatigue" emerged. The categories are "Defining Occupational Fatigue", "Emotional Symptoms of Occupational Fatigue", "Physical Symptoms of Occupational Fatigue" and "Mental Symptoms of Occupational Fatigue" respectively.

Defining Occupational Fatigue

Based on the analyzed data, "Defining Occupational Fatigue" was formed as the first category and there are 5 different codes under this category. These codes and their frequencies are shown in Figure 2.

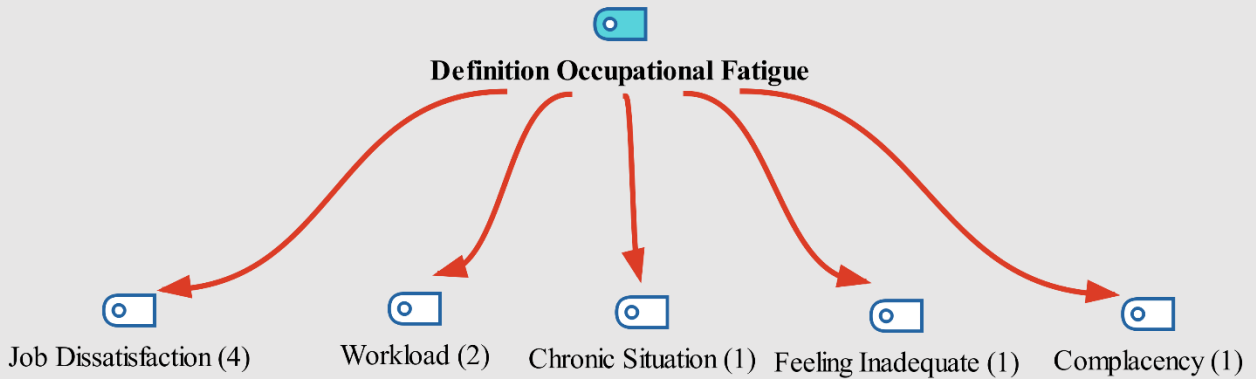


Figure 2. Codes and frequencies of the defining occupational fatigue category

The definition of occupational fatigue includes codes such as dissatisfaction with the profession, workload, continuity, feeling inadequate, and idleness. The most commonly used code to define occupational fatigue is dissatisfaction with the profession. Participants mostly defined occupational fatigue as a general dissatisfaction with their profession. Below are some of the teachers' opinions on this subject.

...if it becomes boring to do the same work all the time, if one cannot enjoy the work environment due to things that become routine, one can talk about occupational fatigue." [T1]

"Not wanting to come to school, getting tired of the pressure of the administration, having difficulty in doing your profession and not having the old strength and idealism. [T10]

Occupational fatigue can be defined using various codes, one of which is excessive workload. The concept of occupational fatigue was exemplified by the teachers' using workload. For instance, T6 stated that *"being not satisfied with their work due to the heavy workload"*. Other codes were also used by the participant teachers to define occupational fatigue with equal frequency. Regarding the code of continuity, one example of a teacher's statement coded as T1 is: *"I believe that occupational fatigue has more continuity than other types of fatigue."* Another descriptor of professional fatigue is teachers feeling professionally inadequate.

The wide range of disability groups and levels in the special education branch may contribute to this situation. As an example of this finding, T8 stated, *"I can experience emotional fatigue and feelings of inadequacy from time to time. Feeling inadequate in this job is a situation I often encounter."* It is possible to provide additional statements from T8 to support this definition of professional fatigue. Special education teachers may face various challenges both in and out of school while performing their duties. When faced with problems and situations that cannot be solved or progressed, coupled with the inherent challenges of working with disability groups, professionals in this field may experience professional fatigue and feel like giving up. This is a common issue that teachers may face. For example, T5 says: *"I can say that burnout is a more normalization of the fact that things are not solved at some times. It's like giving up or giving up. Because after a while, you realize that there is no point in pushing. But since you cannot stop expecting more professionally, this situation is felt as professional fatigue."*

Emotional Symptoms of Occupational Fatigue

Based on the analyzed data, the category of “Emotional Symptoms of Occupational Fatigue” was formed as the second category and there are 6 different codes under this category. These codes and their frequencies are shown in Figure 3.

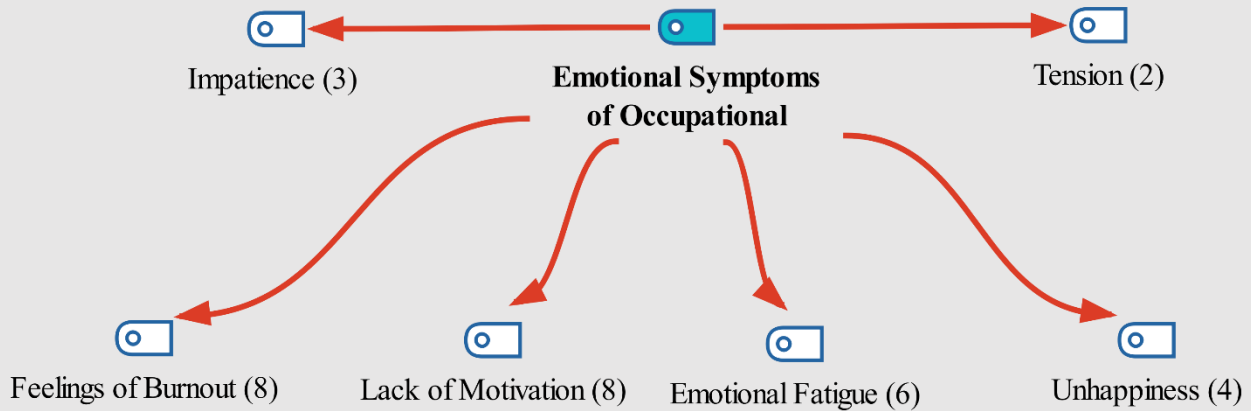


Figure 3: Codes and frequencies of the emotional symptoms of occupational fatigue category

It is widely acknowledged that individuals working in the service sector are more susceptible to occupational fatigue due to intensive face-to-face communication with others compared to other professions. Teaching is a profession that inherently requires face-to-face communication and interaction, particularly in special education where emotional sharing and interaction are more intense than in other teaching branches. In this context, occupational fatigue may manifest as emotional symptoms in teachers, particularly in special education teachers. The interviewed special education teachers most commonly reported experiencing emotional symptoms of occupational fatigue in the form of “burnout” and “lack of motivation”. The following teachers' views provide evidence for the most frequently coded data in this category:

“From time to time, I feel burnout if I do not see any progress in the students even though I work on the same subject over and over again. I do not feel like planning different activities, I feel like a futile endeavor. This creates a vicious circle.” [T1]

“I get the feeling that I can't take it anymore or that I can't achieve anything. I don't want to think about the problems because when that happens, my motivation decreases even more.” [T10]

The other code that emerged in the emotional symptoms of occupational fatigue is emotional fatigue. A teacher's opinion about emotional fatigue, which is one of the types of fatigue, is given below:

“Not being able to progress when students are at a heavy level makes you feel emotionally tired. You feel like you cannot teach anything.” [T2]

When participant teachers feel professional fatigue, they may also feel unhappy. “I feel unhappy” statement of the teacher coded T5 or “I feel unhappy, exhausted, reluctant” statements of the teacher coded T9 can be presented as evidence about unhappiness, which is one of the codes

obtained from the research findings. Another emotional symptom of occupational fatigue is impatience and tension. Special education teachers may have to repeat a subject/objective/goal/gain for long periods of time depending on the characteristics of the disability group they work with. While structuring the education and training process in which individual characteristics are effective, teachers stated that they may sometimes find themselves impatient and feel nervous. T5's statement regarding these findings is: "...I feel intolerance, I get angry more quickly."

Physical Symptoms of Occupational Fatigue

Based on the analyzed data, the category of "Physical Symptoms of Occupational Fatigue" was formed as the third category and there are 4 different codes under this category. These codes and their frequencies are shown in Figure 4.

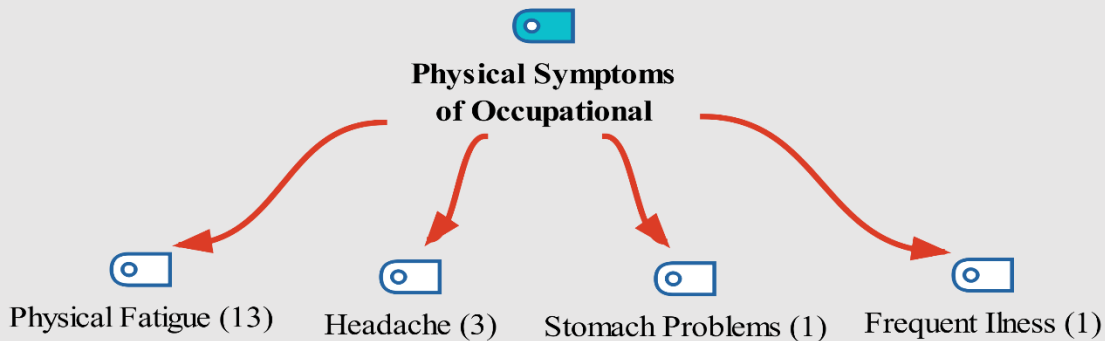


Figure 4. Codes and frequencies of the physical symptoms of occupational fatigue category

Figure 4 shows that the most frequently repeated code (f=13) in the physical symptoms of work fatigue is physical fatigue. Teachers expend physical energy while doing their job. Special education teachers can spend much more of this physical energy and feel physical fatigue depending on the characteristics of the group they work with. In this context, some teachers' views are mentioned below:

"I can define occupational fatigue as the reflection of fatigue on private life when the work done during the day is over, even outside working hours." [T3]

"Professional fatigue occurs when I feel tired, sluggish and have no energy to do anything during the day." [T7]

Another physical symptom is headache. In this regard, the statement of the teacher with the code name T5 "*I have headaches all the time.*" can be given as an example. Other codes repeated with equal frequency (f=1) are stomach problems and frequent illnesses. For example, T4's statement on this subject is like this: "*I don't want to come to school. I feel physically very tired. I get sick very often.*" [T4]

Mental Symptoms of Occupational Fatigue

Based on the analyzed data, the category of "Mental Symptoms of Occupational Fatigue" was formed as the last category and there are 2 different codes under this category. These codes and their frequencies are shown in Figure 5.

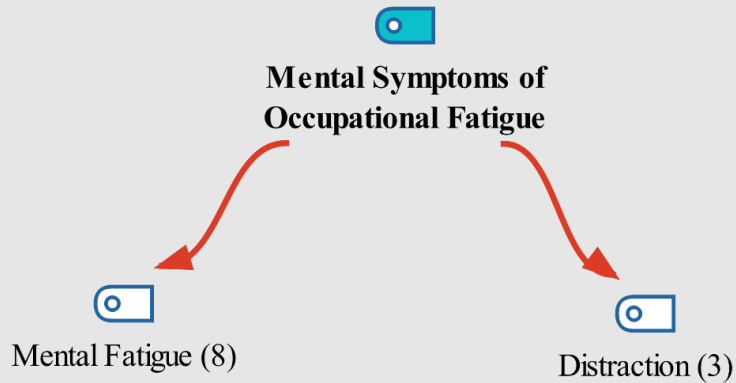


Figure 5. Codes and frequencies of the mental symptoms of occupational fatigue category

When Figure 5 is analyzed, the most frequently repeated code ($f=8$) is mental fatigue. It is normal for teachers working in the field of special education to experience mental fatigue due to the need for frequent and continuous repetition in the field of special education, the necessity to proceed in very detailed and small steps due to student needs and disabilities, and the necessity not to skip the slightest part when planning subjects such as skill teaching. Teacher opinions on this subject are given below:

“Momentarily during the day, I find myself asking myself if I am not enough. The thought of not being able to give enough overrides the physical tiredness. I want to learn and teach more, I want to try different ways, I keep wondering if I am making a mistake somewhere. This tires my mind.” [T8]

Another mental symptom of occupational fatigue is distraction. In this regard, the statement of the teacher coded T2 *“You feel like you cannot teach anything. Working in too much detail causes headache, distraction and impatience.”* can be presented as evidence. Participant teachers generally responded by listing emotional, physical and mental symptoms of occupational fatigue together.

Theme 2: Causes and Sources of Occupational Fatigue

As a result of the interviews, the second theme of the research was determined as “Causes and Sources of Occupational Fatigue”. For this theme, the interviewees were asked the question similar to “*What do you think are the factors that cause occupational fatigue?*”. The categories and codes belonging to this theme are shown in Table 3.

Table 3. Causes and sources of occupational fatigue

<i>Theme</i>	<i>Sub Categories</i>	<i>Codes</i>
Causes and Sources of Occupational Fatigue	Occupational Field Based	Lack of Standards
		Inadequate Appreciation
		The Necessity of Patience
		Low Earnings
	Physical Conditions Based	Physical Structure of the School
		Small Classes
		Lack of Sources
	Administration Based	No Support
		Ignorance
		Excessive Workload
		Wrong Attitudes
	Parent Based	Excessive Expectations
		Lack of Support
		Deny
	Student Based	Being Treated as a Carer
		Slow Development
		Diversity of Obstacles and Problems
		Physical Intervention Risks
		Disease

As seen in Table 3, five categories and twenty codes belonging to the theme of “Causes and Sources of Occupational Fatigue” emerged. The categories are “Occupational Field Based”, “Physical Conditions Based”, “Administration Based”, “Parent Based” and “Student Based” respectively.

Occupational Field Based

From the statements of the interviewed teachers, 4 different codes were found in the category of occupational field in the sources of occupational fatigue. These codes and their frequencies are shown in Figure 6.

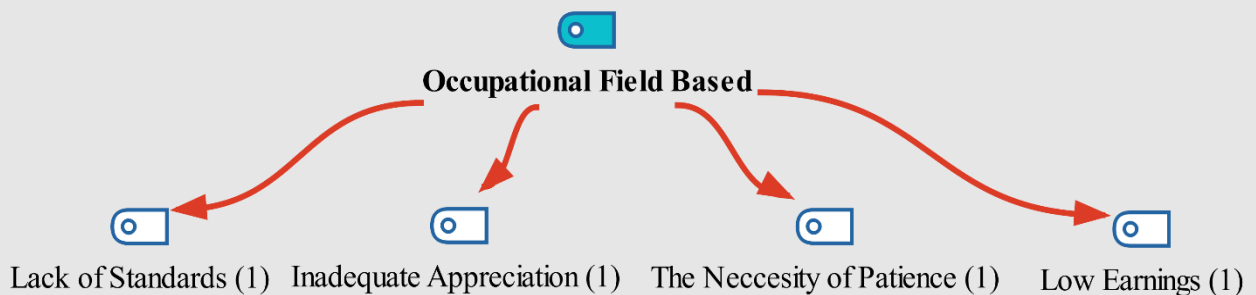


Figure 6: Codes and frequencies of the occupational field of based category

Figure 6 shows that all codes belonging to the category were coded with equal frequency (f=1). Teachers stated that they may experience professional fatigue due to the characteristics of special education teaching as a professional field or some deficiencies in the field. Lack of standards, which is one of these reasons, refers to the lack of common action or having common conditions in the field of practice of the profession. For example, T6's opinion on this subject is like this: *“Lack of cooperation that should be ensured in special education, lack of consistent behaviours, failure or incomplete performance of duties by institutions or individuals who are stakeholders of special education. In other words, lack of institutional integrity and implementation integrity.”* Teachers stated that the teaching profession was generally less valued than in the past and that this loss of value was also effective in teachers' professional fatigue. The statements of the teacher with the code name T1 related to this issue can be given as an example: *“The fact that teachers are not valued enough compared to the past ... makes me think.”* One of the reasons for professional fatigue is that teaching, especially special education teaching, requires a lot of patience. Working with students who learn late and with difficulty or who have special needs due to different disabilities requires patience and calmness not only from time to time but always. The statement of the teacher with the code name T8 related to this subject: *“Of course, the necessity to maintain one's calmness in every situation tires one out.”* can be shown as evidence for this.

Physical Conditions Based

From the statements of the interviewed teachers, 3 different codes were found under the category of physical environment in the sources of occupational fatigue. These codes and their frequencies are shown in Figure 7.

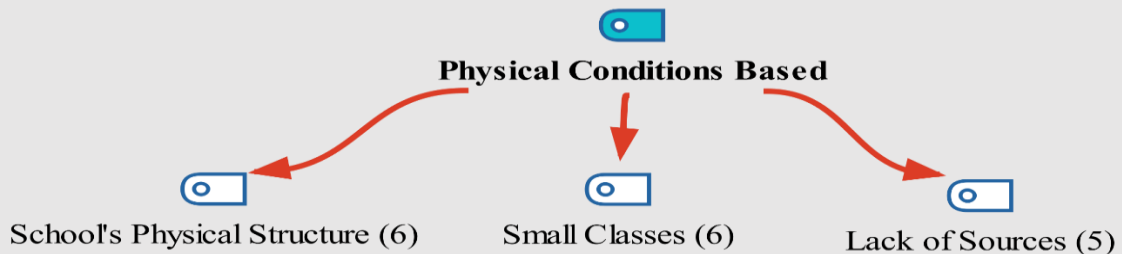


Figure 7: Codes and frequencies of the physical conditions-based category

When analyzing Figure 7, it can be seen that the codes for the physical structure of the school and small classrooms are the most common with the same frequency (f=6). Structural problems in the suitability of schools and classrooms for special needs education (small buildings or classrooms, classrooms without sufficient light and ventilation, lack of areas outside the classroom, lack of toilets for the disabled, etc.) are the main reasons for teachers' professional fatigue due to the physical environment. In cases where there is a lack of physically suitable and sufficient space, the educational process may be disrupted and teachers may feel professional fatigue more easily. Teachers' opinions on these issues are given below:

“...trying to provide special education services in buildings whose physical conditions are not planned makes me think while doing my profession. Toilets need to be renovated in terms of accessibility. Our teachers' room is not

sufficient to meet the needs of all teachers. When I think about all these, I think that I would be happier if I were in better working conditions.” [T1]
“...the small size of the school and the class, the lack of different environments where students can spend time outside the classroom (no extra environments such as sensory integration room or art room).” [T7]

Another reason for professional fatigue caused by the physical environment is the lack of resources. When working with individuals with special education needs, the importance of resources such as concrete materials, colorful and sound toys, textbooks, technological tools that can appeal to multiple senses at the same time, and materials that can practice daily life skills is obvious. The lack of such resources both reduces the efficiency and speed of the education and training process and can be a source of professional fatigue in teachers. The statements of the teacher coded T5, *“In general, there are many deficiencies such as textbooks, lack of materials, lack of equipment, internet, smart board in the classrooms, so this makes us teachers much more tired and difficult.”* and the statements of the teacher coded T7, *“The class is small for the students, the material is not enough, the lack of these increases our fatigue.”* can be presented as evidence for this.

Administration Based

From the statements of the interviewed teachers, 4 different codes were found in the category of administration in the sources of professional fatigue. These codes and their frequencies are shown in Figure 8.

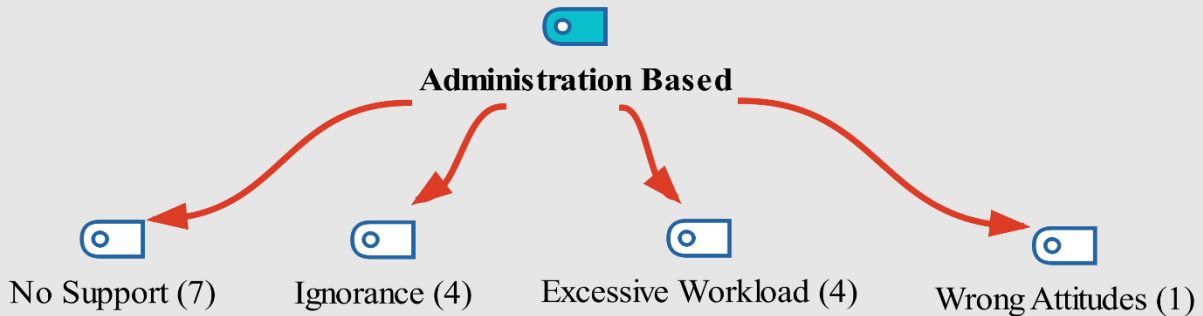


Figure 8: Codes and frequencies of the category administrative based category

Figure 8 shows that the code of being unsupported was repeated most frequently (f=7). According to the teachers' opinions, being unsupported is the most common cause of administration-related professional fatigue. Special education teachers mention administration-related problems especially when working in special education classes opened within the general level schools. A teacher's opinion on the subject is given below:

“I can say not being understood and being put in the background. I think this is a common problem especially for special education classes in regular schools. Rather than the difficulty of our work or the degree of effort, attention is paid to things such as the small number of students, two teachers in the class, and the simplicity of the course content. Our presence is ignored until a problem arises. If there is a problem, instead of solutions and support, we are questioned and treated badly.” [T9]

Considering that the field of special education is a new and developing field, the fact that most of the school administrators do not have sufficient knowledge and equipment about this field and that they push teachers too much in terms of workload may increase the professional fatigue of special education teachers. Teacher opinions on these issues are given below:

“Unresolved. Especially the classrooms in normal schools are even more unsolvable. Because the administrators do not have any knowledge in this field. Unfortunately, special education teachers are very lonely here. Especially if the administration does not understand you and gives you difficulties and unnecessary workload, you feel worse because you cannot find anyone to support you like other classes.” [T5]

Another factor was the misperceptions and wrong attitudes created by the administration towards the parents. In this regard, the statement of the teacher with the code name T10: *“Parents are a little flattered to make them feel good emotionally. This situation reflects negatively on us.”* statements can be shown as evidence.

Parent Based

From the statements of the interviewed teachers, 4 different codes were found in the category of parent in the sources of professional fatigue. These codes and their frequencies are shown in Figure 9.

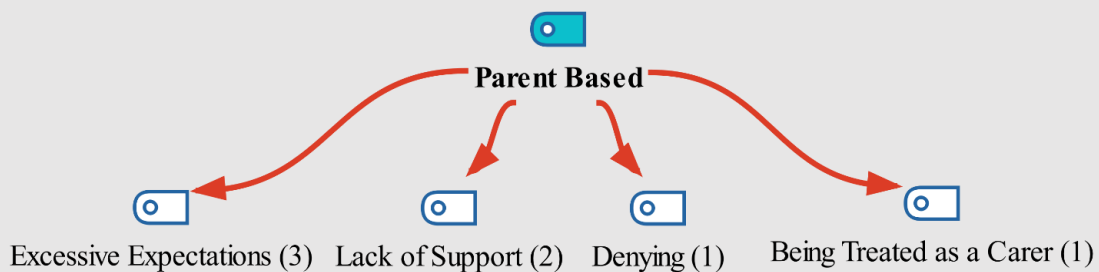


Figure 9. Codes and frequencies of the parent-based category

Figure 9 shows that the code of excessive expectations was repeated most frequently (f=3). According to teachers' opinions, excessive expectations of parents are the main cause of professional fatigue caused by parents. Families with children with special needs may have different expectations when their children start school life. It is often difficult for families to see and understand the disability in a professional sense, and they are likely to have demands and expectations that include an emotional perspective. In this context, special education teachers who are trapped between unmet parental expectations and the real situation may experience professional fatigue. Some teacher views on this issue are given below:

“The main reason is that the children progress very slowly in the practice school, there is no feedback and yet the parents and the administration have excessive expectations. It is as if they are living in a dream world or in a chain of promises. There is a situation where dreams or wishes are one thing but reality is another.” [T10]

“The lack of a standard in practice leads to utopian requests and behaviours by unqualified administrators or uninformed parents who do not know where the boundaries begin and end.” [T6]

Achieving permanent and relatively rapid progress and development in special education is possible with the support of parents and families, as is the case in all levels of education and training and for all students. The other reasons for professional fatigue caused by parents that emerged as a result of the findings were denial and being treated as a career. In this regard, the statement of the teacher with the code name T5 *“In general, I have experienced a lot of negativities because parents never accept and deny the existing inadequacies of their children, and sometimes they try to treat the teacher as a career. This made me very tired.”* can be given as an example.

Student Based

From the statements of the interviewed teachers, 5 different codes emerged in the category of students in the sources of professional fatigue. These codes and their frequencies are shown in Figure 10.

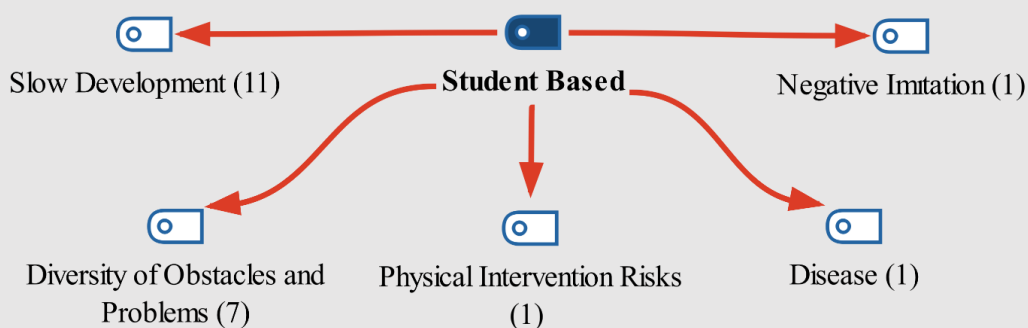


Figure 10: Codes and frequencies of the student-based category

Figure 10 shows that the slow progress code was repeated most frequently (f=11), followed by the obstacle and problem diversity code (f=7) and the remaining three codes were coded with equal frequency (f=1). According to teachers' opinions, slow progress of students is one of the most common difficulties encountered in the classroom. Special education covers a field that aims to contribute to individuals' learning processes more effectively. Students who can forget the gains in a short time due to their disabilities may need attention, multi-sensory stimuli, frequent repetition and visual aids. Slow progress in special education, where the principle of small steps is often used, is not a surprise. However, this situation may cause teachers to experience professional fatigue. Teacher views on this issue are given below:

“I think the fact that it is not easy for students to progress and that it requires constant repetitions for the same subject is a reason for professional fatigue.”

[T1]

“Not getting very far with the students. Always practising the same things and going back to the beginning. Students with autism like repetition and routines, they resist new things. This can naturally make even the simplest subject or skill very difficult.” [T2]

One of the reasons for student-related professional fatigue is the diversity of disabilities and problems. Special education is a field that provides curricula and support services designed to meet the learning needs and abilities of individuals. The diversity of disabilities and problems refers to the wide range of difficulties encountered in special education. This diversity is related to individuals' different learning profiles, difficulties and disabilities.

Risks of physical intervention, illness and negative imitation are the other elements coded with equal frequency in the causes of student-related occupational fatigue. The risk of physical intervention by the teacher, parents/caregivers, students coming to school sick, learning and adopting each other's negative actions and behaviours by imitating each other's negative actions and behaviours, which are sometimes seen in some students with moderate and severe disabilities or with disabilities accompanied by very intense behavioural disorders, can be among the causes of professional fatigue of special education teachers. Teacher opinions on these issues are given below:

“I have seen physical intervention especially from students with different types of disabilities at some times, but since they were accepted as they are, the intervention I saw was always met with "may be" and remained unresolved.”

[T5]

“I can count the reasons such as students coming to school sick and tired and therefore not being ready for teaching, students who need individual teaching cannot adapt to the group environment, students imitating each other negatively.” [T7]

Theme 3: Occupational and Personal Effects of Occupational Fatigue

As a result of the interviews, the third theme of the research was determined as “Professional and Personal Effects of Occupational Fatigue”. For this theme, the interviewees were asked the question “What are the effects of occupational fatigue in your opinion?” and other similar questions. The categories and codes of this theme are shown in Table 4.

Table 4: Categories and codes related to the theme of professional and personal effects of occupational fatigue.

<i>Theme</i>	<i>Sub Categories</i>	<i>Codes</i>
Occupational and Personal Effects of Occupational Fatigue	Occupational Effects of Occupational Fatigue	Impatience
		Underperformance
		Communication Problems
		Irritability
		Does Not Effect
		Resignation
	Personal Effects of Occupational Fatigue	Family Problems
		Low Energy
		Restricting Social Relationships
		Unhappiness
		Postponing Hobbies
		Tense Mood
	Strategies to Reduce Occupational Fatigue	Rest/Sleep
		Not Thinking About Problems
		Being Alone
		Hobbies
		Providing Professional development
		Colleague Motivation
		Creating a Document Archive
		Socialising

As seen in Table 4, there are 3 different categories and 20 different codes belonging to the theme of “Professional and Personal Effects of Occupational Fatigue”. The categories are; “Professional Effects of Occupational Fatigue”, “Personal Effects of Occupational Fatigue”, “Strategies to Reduce Occupational Fatigue”.

Occupational Effects of Occupational Fatigue

Based on the analysed data, the first category was “Occupational Effects of Occupational Fatigue” and there are 6 different codes under this category. These codes and their frequencies are shown in Figure 11.

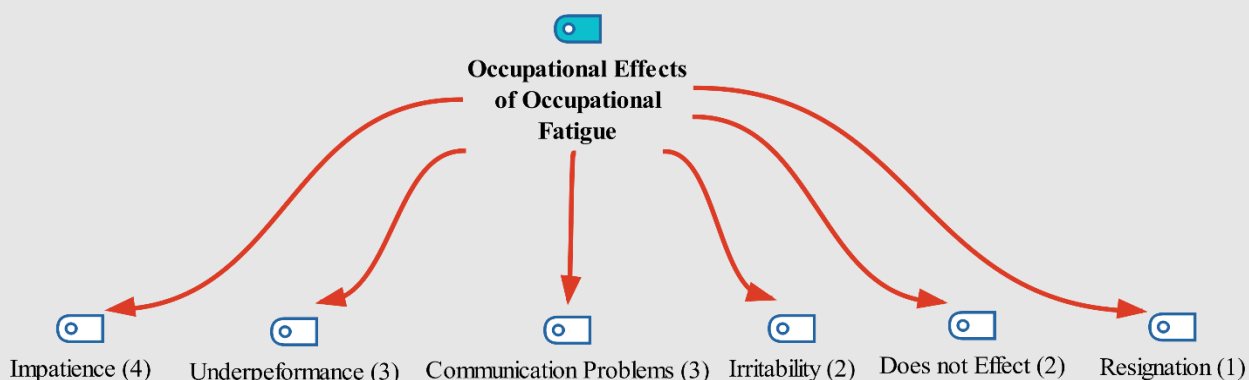


Figure 11: Codes and frequencies of the occupational effects of occupational fatigue category

Figure 11 shows that the impatience code was repeated most frequently (f=4). According to teachers' opinions, professional fatigue affects teachers negatively mostly in terms of showing patience. Teachers who experience impatience due to professional fatigue may reduce the number of activities during the day or may have to make more effort to show patience towards students' learning speed or problems. Teachers' views on this issue are given below:

"...it becomes difficult to communicate positively, the level of tolerance decreases. I have to make more effort than usual to behave more patient, calm and correct." [T6]

"Patience is decreasing, so I want to spend the day with fewer activities." [T2]

Another professional effect of professional fatigue was low performance. Teachers stated that when they felt professionally tired, their motivation and performance in classroom activities were negatively affected, and they experienced a decrease in their desire and energy to teach. The statements of the teacher coded T10, "This fatigue reduces the desire to come to school, so the efficiency decreases for sure." and the statement of the teacher coded T2, "*Since I feel tired, my idealism and performance are negatively affected.*" can be presented as evidence. Communication problems are another factor that emerges as a result of professional fatigue. Due to the effect of professional fatigue, teachers may have difficulty in communicating with students and for this reason, they may want to reduce the frequency of communication. One teacher' view on this issue are given below:

"I have difficulties in communication. The fact that the cognitive level of the students as well as their physical age is small creates the necessity to repeat things more often. This challenges my patience while communicating." [T4]

Another code that emerged from the teachers' statements is irritability. Since special education teachers spend extra effort for their students and generally have to focus more on the special needs of their students, this situation may be more evident than in other branches. Teachers experiencing professional fatigue may react in ways they would not normally react and may feel the need to constantly control themselves due to this situation. Some teacher views on this issue are given below:

"My reactions to my students can be angry and aggressive. In fact, I can get angry at things I would not get angry at because of professional fatigue." [T7]

It was observed that some of the teachers who participated in the research did not think that professional fatigue affected them professionally. These teachers stated that they felt professional fatigue but tried not to reflect it to their students. The opinions of the teacher's subject to the findings are mentioned below:

"I try not to reflect this situation to my students. There is no situation that affects my relationship with them." [T1]

The least repeated code (f=1) in the category of the professional effects of teachers' professional fatigue was the code of giving up. Some teachers may have difficulty in improving and developing their work as a result of the professional fatigue they experience due to the working conditions, the school, the administration, the problems experienced by the parents and the

difficulties of the student group, and they may continue their education by accepting what they have rather than expecting more. In this regard, the teacher coded T5 said "*It is negatively affected. Unfortunately, it ends with communication disconnection and giving up. I do not want to make more effort and I am content with what I have.*" can be presented as an example.

Personal Effects of Occupational Fatigue

Based on the analyzed data, the second category “Personal Effects of Occupational Fatigue” was formed and there are 6 different codes under this category. These codes and their frequencies are shown in Figure 12.

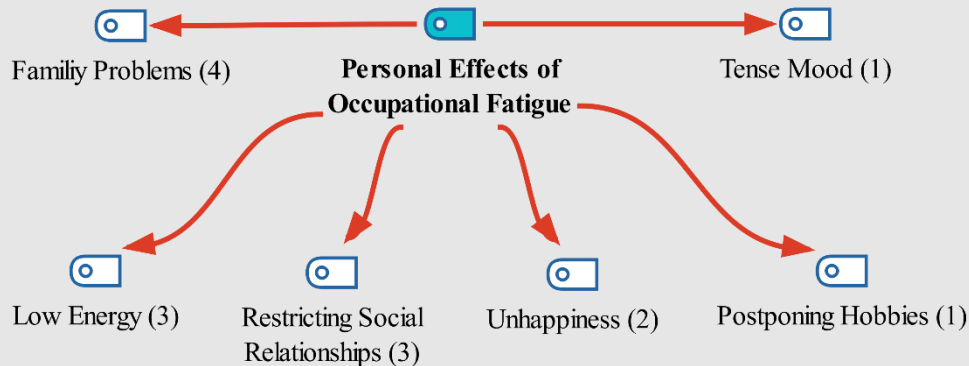


Figure 12: Codes and frequencies of the personal effects of occupational fatigue category

When Figure 12 is analysed, it is seen that the code of family problems is repeated most frequently (f=4) and the teachers who participated in the research are mostly united on the points of family problems, low energy and limiting social relations in the category of personal effects of occupational fatigue. Occupational fatigue can deplete an individual's emotional energy. This may reduce the capacity to connect emotionally with family members. An individual who is tired or irritable may have difficulty in establishing healthy communication with family members. This can lead to disagreements and communication problems within the family. Occupational fatigue can reduce an individual's energy levels, which can lead to difficulties in allocating time for the family. Some teachers' views on this issue are given below:

“I have no patience with my husband and child, which leads to conflicts at home. I cannot tolerate things that I would not normally get angry.” [T2]

“Since I am not happy at school and I cannot do my job with pleasure, I go home sad and this situation affects my spouse, children and everyone around me in some way.” [T4]

The other codes that were repeated with the same frequency (f=3) in the statements of the teachers participating in the research on the greatest professional effects of professional fatigue were low energy and restricting social relations. Teachers experience a general low energy due to the effects of occupational fatigue and state that their social relations are restricted. T5’s view on these issues like this: “Of course, when you deal with these things all day, you don't have the energy to do anything. You don't feel like doing anything.” [T5]

Feeling emotionally unhappy is another dimension of the occupational effects of occupational fatigue. The teachers who participated in the research stated that they could feel

unhappy due to the effects of occupational fatigue. The following teacher statements can be given as an example to this issue:

“It affects our personal life negatively. Mentally tired, emotionally unhappy, financially inadequate.” [T6]

Professional fatigue may also have different effects on teachers' personal lives, such as postponing some hobbies and activities enjoyed in social life, experiencing a decrease in the rate of participation in social life and having a tense mood. For example, the teacher coded as T1 said, *“I cannot say that I can spare too much time for my hobbies. I don't feel like doing anything most of the time because of professional fatigue. I don't do much except my routine housework with the tiredness of the day.”* and the teacher coded T7 said, *“The tense and nervous state experienced in the classroom environment is reflected in the social environment. After school is over, I feel tired and do not want to do any extra activity.”* can be given as examples.

Strategies to Reduce Occupational Fatigue

Based on the analysed data, “Strategies for Reducing Occupational Fatigue” was formed as the third category and there are 8 different codes under this category. These codes and their frequencies are shown in Figure 13.



Figure 13. Codes and frequencies of the category of strategies to reduce occupational fatigue

When Figure 13 is analysed, it is seen that the most frequently repeated codes were resting/sleeping and not thinking about problems ($f=3$). The research findings reveal that teachers generally try individual strategies to reduce their occupational fatigue. It can be said that professional fatigue can be relieved especially by resting and sleeping physically. An opinion of T2's on this subject is given below:

“I often feel tense, tired and stressed, so the best thing for me is to rest. Sleeping or spending time in a quiet and calm way.” [T2]

When teachers are unable to solve existing problems related to school and students, they may stop thinking about problems in order to avoid further professional fatigue and to cope with situations. Stopping thinking about problems is a mental strategy used especially to cope with constant mental turmoil and anxiety. The opinion of a teacher who participated in the research and applied this strategy is given below:

“I try to reduce my professional fatigue by ignoring many of the things said, many demands of parents, and extra work requested by the administration. This way does not eliminate the problems, but at least it prevents me from getting more tired professionally.” [T10]

One of the strategies of the teachers participating in the study to reduce their professional fatigue was to stay alone. At the end of intense student interaction and thought traffic throughout the day, special education teachers stated that they could reduce their fatigue by being alone. In this regard, the teacher with the code name T8 said: *“I stay with myself. Calmness helps me recover a little more. By doing things that I like and that are good for me on my own, I relatively reduce my fatigue during the day or week.”* statements can be presented as evidence. Another strategy used by teachers is taking up hobbies. Having a hobby can be an effective way to cope with occupational fatigue. A hobby refers to an activity that a person can enjoy outside of work. These activities can strengthen mental health, reduce stress and alleviate the effects of occupational fatigue. In this regard, the statements of the teacher with the code name T5 such as *“... or attending some different hobby courses, going to theatre and drama courses are good for me.”* can be given as an example.

Another element that we encounter in strategies to reduce occupational fatigue is colleague motivation. Colleague motivation is an important factor to increase teamwork in the school environment, to improve performance and to positively affect the working environment in general. Special education teachers can get support for finding solutions to their common or similar problems and increasing their motivation related to their profession, especially by communicating with other special education teachers. An opinion on this subject is given below:

“I try to find something to motivate myself. For example, I do this profession because I love children and teaching. No matter how difficult it is to teach in special education, when the student acquires the desired behaviour, his/her happiness is just as much. The conversations I have with my colleagues in the school environment can also be a source of motivation.” [T1]

The last strategies obtained from the research findings related to the strategies to reduce professional fatigue were creating a document archive and socializing. In this regard, the statements of the teacher coded T3, *“I create an archive of documents requested regularly every year, such as minutes of parent meeting, etc. I try to prepare a file with activities, etc.”* and the statement of the teacher coded T5, *“I try to do activities that distract my mind. Things like travelling, shopping, meeting with friends, watching films...”* can be given as examples.

Discussion, Conclusion and Suggestions

The purpose of this study was to investigate the reasons for and the professional consequences of special education teachers working in primary/secondary schools with special education classes, special education kindergartens and special education practice schools in the central district of Düzce.. In the context of special education, teachers often describe occupational fatigue as a multifaceted issue. Job dissatisfaction, stemming from inadequate resources and support, plays a significant role. The heavy workload they face only exacerbates this dissatisfaction, as the unique demands of special education require extensive time and effort. Furthermore, this situation is often chronic, not just a series of isolated incidents, which leads to persistent stress. Teachers also report feelings of inadequacy, questioning their ability to meet the diverse needs of their students, and complacency, which may arise as a defense mechanism against ongoing stress. Literature research suggests that professions involving intense face-to-face interaction with people, such as doctors, nurses, and teachers, are more likely to experience

occupational problems like fatigue, stress, and burnout (Hablemitoğlu & Özmete, 2012). Working with younger and underage individuals makes the teaching profession particularly challenging. Teachers may experience professional fatigue more frequently when working with younger students who have not yet developed a strong sense of responsibility. Burnout and professional fatigue are significant issues in the field of education, particularly in special education. Due to the unique needs of their students and the challenging work environment, special education teachers are at a higher risk of experiencing burnout. Aksoy's (2007) research on special education teachers found that they experienced a moderate level of burnout. In addition to the challenges arising from the inadequacy of the students, special education teachers also face the need to constantly educate themselves (Vızlı, 2005). Bozgeyikli (2016) states that working with individuals with special needs, particularly as a special education teacher, can lead to burnout and professional fatigue, which may result in depression, psychosomatic problems, and reduced work efficiency. The research findings indicate that all participating special education teachers experienced professional fatigue.

In this study, the opinions of teachers were prioritized to define professional exhaustion in the field of special education, using the definitions of job dissatisfaction and workload. Şahin and Şahin (2012) considered workload as one of the institutional variables examined in predicting burnout. Factors such as excessive workload, prolonged work experience, and complexity of work contribute to workload. Himmetoğlu *et al.* (2022) reported that special education can lead to stress and professional fatigue for teachers due to the high workload and heavy responsibilities associated with addressing students' behavioral problems and diverse needs. According to Işıkkhan's (2017) research, students with special needs may lag behind their typically developing peers depending on the type and degree of disability. This can cause special education teachers to experience burnout and negative emotions related to their profession. These factors can lead to stress, burnout, and job stress for staff working in the field of special education. Bozgeyikli (2016) found that dissatisfaction with their job can cause boredom, monotony, distress, burnout, and emotional fatigue in teachers. This is supported by research showing that teachers who are dissatisfied with their profession experience higher levels of burnout and emotional fatigue than those who are satisfied.

This study shows that professional fatigue among special education teachers can result in emotional, physical, and mental symptoms. Emotional symptoms may include burnout, emotional fatigue, and lack of motivation. Physical symptoms may include fatigue, headaches, and stomach problems. Mental symptoms may include mental fatigue and distraction. Ardıç and Polatçı (2008) state that physical symptoms, such as weakness, headache, laziness, general body aches, and intestinal and stomach disorders, begin to appear in teachers experiencing burnout and professional fatigue. Kazu and Yıldırım (2021) also note that these symptoms include forgetfulness, family problems, difficulty concentrating, sudden irritation and outbursts of anger, frequent crying, wanting to be alone and being irritable. Sılığ (2003) found that emotional exhaustion can lead to physical exhaustion. Individuals experiencing emotional work fatigue may feel empty, tired, and lacking energy to start a new day. These findings support the present study. This study identifies various factors contributing to special education teachers' professional fatigue, including their professional field, physical environment, administration, and resources from parents and students. Teachers often face a range of challenges, including low income, inadequate physical structures in schools and classrooms, and insufficient support from administration. Additionally, parents may have unrealistic expectations or view teachers solely as caregivers, while students may make slow progress. These obstacles can lead to professional fatigue. It is important to address these issues in order to improve the quality of education. Himmetoğlu *et al.* (2022) highlight that special

education is a field that demands patience and understanding. This finding is supported by previous studies that emphasize the fundamental qualities and characteristics required to be a special education teacher (Bozgeyikli, 2016; Şahin and Şahin, 2012). Special education requires patience and dedication due to the slow and difficult learning of students and the resulting delay or lack of feedback. Material deficiencies and inappropriate school building design for students with disabilities were also noted. This research result has been cited in many studies regarding the fundamental issues experienced in special education (Başaran, 2001; Güleç-Aslan et al., 2014).

Special education teachers experience professional fatigue in various dimensions and develop strategies to reduce it. Professional fatigue is mainly reflected in teachers' professional lives as impatience and poor performance. Personal effects include family problems, low energy, and limited social relationships. In addition to this research study, professional burnout and fatigue can lead to negative organizational consequences such as reduced performance, decreased job satisfaction, and lower organizational commitment (Ardıç & Polatçı, 2008; Arı & Bal, 2008; Argon & Koçak, 2019). Professional fatigue can have negative effects on personal life, such as constant headaches, tension, and exhaustion. Teachers, for example, may carry the problems they encounter at school home, struggle to find time for their families and social activities, and experience fatigue and headaches (Argon & Koçak, 2019; Arslan, 2018).

According to the research findings, the following recommendations are provided to reduce or prevent the professional fatigue and effects of special education teachers:

- However, by conducting similar studies, it is possible to establish a connection between the general problems of special education teachers at the regional or national level and analyze to eliminate the problems encountered.
- Physical structures of special education classes can be reviewed and improved, corrections can be made in classrooms and schools that do not comply with standards regarding size and physical features, and more use of technology can be provided in classrooms.
- By renewing the classroom equipment such as desks and chairs and addressing material shortages, students can receive education in a more comfortable environment.
- The reflection of the occupational fatigue of special education teachers on school climate and culture can be addressed in various studies.

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Conflicts of Interest

There is no conflict of interest between authors.

Ethics

The ethics application for the study was made on 23/11/2023 and the research was carried out with the approval of Düzce University Ethics Commission dated 23/11/2023 and numbered 2023/369.

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