

New Insights into the Correlation between Secondary Traumatic Stress and Cognitive Flexibility in Mental Health Therapists and Counselors

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Abstract: Mental health professionals regularly witness their clients' challenging life events, which they must cope with throughout their careers. This study examines the association between secondary traumatic stress (STS) and cognitive flexibility among counselors and therapists and explores their variations by demographic and professional factors. The participants included 536 professionals (psychiatrists, psychologists, social workers, and child development specialists). Secondary traumatic stress and cognitive flexibility were assessed using the Secondary Traumatic Stress Scale and the Cognitive Control and Flexibility Scale, respectively. Demographic data were collected using the Personal Data Form. SPSS 21.0 software was used for data analysis. Pearson correlation analysis revealed a moderate negative association between the participants' STS and cognitive flexibility levels. The findings indicated a higher STS risk among child development specialists, younger professionals, those who are single or do not have children, those who have lower income or fewer years of experience, and those without trauma-related training or supervision. Conversely, older age, marriage, children, higher income, higher level of education, longer experience, and trauma-related training were identified as protective factors for cognitive flexibility. Several recommendations were provided to strengthen mental health professionals' flexibility and reduce the impact of STS on them. First, supportive measures in protection, prevention, and treatment for mental health professionals who work in the field of trauma should be taken. Second, priority should be given to extending certified training programs that will improve the professional skills of mental health workers. Third, counselors should be supported by peer, individual, and group supervision. Finally, examining gender-specific risks is essential to increase women's cognitive flexibility and improve their physical and emotional well-being.

Keywords: Secondary traumatic stress, cognitive flexibility, mental health, counselor, therapist, trauma

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Introduction

Today, almost every mental health professional meets with groups of people who are exposed to very different levels of life stress. The professionals are regularly exposed to confusing and distressing stories, terrifying images, pains, and sufferings that require them to be supportive and empathetic, which, in time, may become a burden that harms their psychological and physical well-being (Kabunga et al., 2014). Various non-specific demands, including “environmental, or physical, social, and mental demands,” may cause such harmful stress (McSweeney et al., 2021, p. 2).

Different theories have defined stress in terms of a stimulus, a response and a relationship. According to the stimulus-based stress model, events/stimuli occurring in a person's life create an impact on the person. This effect leads to change and, as a result, stress. Researchers Holmes and Rahe (1967) contributed significantly to developing this model (Demir, 2019; Jones & Bright, 2001). In the response model, stress is perceived as a reaction. The adaptation process consists of three stages: alarm, resistance, and exhaustion, and is called the General Adaptation Syndrome (Selye, 1974). In the relationship model, stress is a process based on the relationship between the person and the environment (Lazarus & Folkman, 1984). Because different people attribute different meanings to the same stimuli, their reactions may differ. However, environmental stimuli alone are insufficient to define stress; meaning can only be created through the person's perception (Lazarus & Folkman, 1984).

Traumatization refers to one's direct exposure to events that they experience or witness, which threatens their physical and psychological integrity and may result in death or severe injury (American Psychiatric Association, 2013), while the reactions that occur when the traumatic event itself is experienced are defined as primary traumatic stress (Figley, 1995). Unlike this, secondary traumatization may be caused a stress response resulting from hearing about or seeing a traumatic event, continues contact with a traumatized population, or learning about and helping the suffering of someone who has experienced such an event (Kabunga et al., 2014; Peebles-Kleiger, 2000). Secondary exposure to a traumatic event may lead to symptoms similar to direct exposure to the event and the development of post-traumatic stress disorder (PTSD) (Kahil and Palabıykoğlu, 2018). PTSD and STS symptoms are very similar, and they are also similar in that not every traumatic experience always turns into a disorder. The fact that traumatic experiences are experienced with individual differences affects the reactions and coping methods given to these difficulties (Palabıykoğlu & Cesur, 2013).

Therapists who are constantly exposed to traumatic accounts of their clients may display symptoms of secondary traumatic stress (Arnold et al., 2005; Brady et al., 1999; Culver et al., 2011). Symptoms such as intrusive thoughts, avoidance, and overstimulation may appear in people who experience trauma secondarily (Doğan et al., 2021). Those who give care to trauma survivors may commonly experience symptoms such as sleep disorders and excessive anxiety (Cunningham, 2003). The most important difference between direct exposure to trauma and the subsequent development of PTSD and secondary traumatic stress is that the reason for stress in PTSD is the event or state that leads to trauma. However, in STS, it is the person who experiences trauma (Trippany et al., 2004).

Those in professional groups may suffer from secondary traumatic stress, displaying problems like disruptions in social or occupational functionality in key areas of life (Choi, 2011). Not every individual who encounters the same type of traumatic situation reacts in the same way. The way reactions occur and the way they cope differ in almost everyone (Doğan, 2021). In addition to universal elements, the effects of personal, social, and cultural factors should also be considered in the emergence of symptoms of traumatic stress (Stamm & Friedman, 2000). Even if some people show traumatic stress reactions, they cope with them and return to their former functionality and do not develop any psychological disorders after the trauma (Bonanno & Mancini, 2008). Some develop some psychopathologies related to the

traumatic event (American Psychiatric Association, 2013). Some develop a new sense of meaning and goals with new energy after the trauma (Calhoun & Tedeschi, 1998). In other words, people's mental skills and coping potential in the face of difficulties vary among individuals. Therefore, although mental health workers are at risk for experiencing secondary traumatic stress, the degree to which each person is affected may be different.

Certain personality traits affect how individuals interpret the events and situations they experience. It is thought that cognitive flexibility, which refers to coping with challenging situations and maintaining adaptation (Ateş & Sağar, 2021), is one of these personality traits. Having cognitive flexibility requires the ability to shift from one thought to another freely when adapting to specific situations or developing and accessing certain strategies for various problems (Stevens, 2009), abandoning methods that will not be effective in novel situations and resorting to new methods (Cañas et al., 2003), and displaying flexibility and competence in adaptation to new conditions (Martin & Rubin, 1995). In addition to all these descriptions, cognitive flexibility includes the ability to learn from mistakes, focus attention, develop alternative strategies, process and change multiple sources of information simultaneously (Anderson, 2002), restructure information differently by evaluating the complexity and difficulty level of changing situational demands (Jacobson & Spiro, 1995).

The literature demonstrates a growing investigation and explanation of how professionals working with trauma are affected by their experiences, how caregivers can protect themselves from stress reactions they are exposed to due to their professions, and what factors might help maintain their well-being (Bercier & Maynard, 2015; Collins & Long, 2003; Etherington, 2009).

Generally significant relationships have been found between cognitive flexibility and PTSD in the literature (Daneshvar et al., 2020; Keith et al., 2015). Studies on PTSD show that cognitive evaluations and interpretations of individuals with PTSD are more rigid and unchanging, which affects the duration and severity of the symptoms they display, and that lower flexibility corresponds to stronger PTSD symptoms (Joseph & Gray, 2011; Power & Dalgleish, 1997). Some studies have also underlined that the way a person affected by trauma deals with this particular event is essential, as this person might experience post-traumatic stress (Green et al., 1985). In addition, studies have shown that cognitive rigidity and cognitive flexibility are significantly associated with symptoms of depression and post-traumatic stress. Accordingly, people with a more cognitively rigid attitude were more likely to blame themselves after a traumatic experience than notice or recognize alternative interpretations of that experience (Fresco et al., 2007). On the other hand, people who can approach situations individually or contextually have been found to be more cognitively flexible (Palm & Follette, 2011). Furthermore, it was put forward that high levels of cognitive flexibility may be associated with thinking about the traumatic event in a more detailed way, dealing with uncertainties more effectively, and finding different methods to cope with hardships better (Fu & Chow, 2017).

However, there are insufficient studies in the literature on the cognitive flexibility levels of mental health professionals. Furthermore, no studies were encountered on the relationship between secondary trauma and cognitive flexibility. Thus, investigating secondary traumatic stress and cognitive flexibility levels among mental health workers is essential. In this way, it will be possible to recognize the risk factors that may cause mental health professionals providing counseling to individuals with traumatic experiences to develop secondary traumatic stress, to understand the importance of these factors, and to spend efforts to establish a structure that will protect these professionals from secondary traumatic stress (Bride et al., 2004).

Thus, this study aims to determine the associations between secondary traumatic stress and cognitive flexibility and how these associations vary according to socio-demographic characteristics. For this purpose, answers to the following questions were sought in this survey of professionals:

1. What were the participants' cognitive flexibility levels and secondary traumatic stress levels?
2. Was there a significant association between the participants' cognitive flexibility and secondary traumatic stress?
3. Was there a significant association between the participants' cognitive flexibility, secondary traumatic stress and demographic variables, including age, gender, educational background, marital status, having children, occupations, professional experience, monthly income, history of trauma, trauma-related professional training, having supervision, and having psychotherapy?

Method

This method will discuss the research model, study group, data collection tools, and data analysis methods.

Research Model

This study uses the correlational survey design to investigate the association between the secondary traumatic stress and cognitive flexibility levels of the participants and whether this association varied according to specific socio-demographic characteristics.

Population

The population included prospective participants from four professional groups (psychiatrists, psychologists, social workers, and child development specialists) who worked as counselors and therapists in the mental health field in Turkey and actively saw clients.

Sample and Sampling Method

This study reached the sample group through the chain sampling technique. Accordingly, one or more therapists and counselors reported the survey they received to their acquaintances and other colleagues; in other words, the sample was reached through a network of acquaintances. Five hundred thirty-eight responded, but two surveys were excluded due to missing data (e.g., skipping at least one item in a scale or an entire scale). The data collection process started after approval was obtained from the ethics committee for the study.

Data Collection Tools

The study data were collected using the Demographic Information Form, the Secondary Traumatic Stress Scale, and the Cognitive Control and Flexibility Scale.

The Demographic Information Form

This form was used to gather data about the participants' occupation, age, gender, marital status, parenthood status, monthly income, educational background, years of professional experience, trauma-related professional training, history of supervision support, and history of trauma. This form consisted of three items: yes-no, multiple-choice, and fill-in-the-blank.

The Secondary Traumatic Stress Scale (STSS)

Bride et al. (2004) developed this scale, which Yıldırım et al. adapted to Turkish (2018). The STSS is a 5-point Likert-type measurement tool consisting of 17 items. The scale has three subscales: emotional violation, avoidance, and arousal. A minimum score of 17 points and a maximum score of 85 points can be obtained from the scale. Higher scores indicate a higher level of exposure. In the present study, the Cronbach α internal consistency value was determined as 0.921 for the Secondary Traumatic Stress Scale and 0.914 for the Cognitive Control and Flexibility Scale. Hence, the scales' reliability is highly satisfactory. Confirmatory factor analysis resulted in compliance indices confirming three-dimensional originality, factor loadings ranging from 0.29-0.79, and t values were significant. In addition, the OCS and MBI Inventory, which examined similar constructs, resulted in significant relationships (0.59 and 0.70). The reliability coefficients of the scale were found to be $\alpha=0.91$ for the total scale of 17 items. In addition, $\alpha=0.78$ for avoidance from subdimension, $\alpha=0.82$ for arousal, and $\alpha=0.84$ for emotional violation were calculated.

The Cognitive Control and Flexibility Scale

Gabrys et al. developed this scale (2018), which Demirtaş adapted to Turkish (2019). The scale measures an individual's ability to establish control over intrusive and unwanted thoughts and emotions and cope with stressful situations flexibly. The scale consists of 18 items and two subscales (cognitive control over emotion and appraisal and coping flexibility) using 7-point Likert scale items. It is assumed that the higher the participants' mean scores, the better they control their negative thoughts and cope with stressful events. In support of the internal consistency of the scale, it was observed that there were highly significant relationships between the total score obtained from the CCFQ and the factors of appraisal and coping flexibility ($r(350) = .86, p < .01$) and cognitive control over emotions ($r(350) = .89, p < .01$), and the two factors had a moderate relationship with each other ($r(350) = .53, p < .01$). The item-total score correlation findings showed that the items in the measurement tool had values between .46 and .69. The Cronbach's alpha reliability coefficients calculated for the reliability of the scale were .85 for the cognitive control over emotions factor and .91 for the appraisal and coping flexibility factor. The value calculated for the entire scale was .91 (Demirtaş, 2019). Thus, the research findings indicate that the Turkish Form of CCFQ is a valid and reliable tool for measuring cognitive control over emotion and appraisal and the coping flexibility of Turkish university students in the context of stress.

Ethical Considerations

All procedures followed the ethical standards of the institutional and national research committee (Dogus University Board of Ethics, dated 30.11.2023). Informed consent was obtained from all participants, who could withdraw at any time. Those who agreed to participate in the study completed the scales online via Google Forms. The obtained data were stored in an online account only the researcher could access. The data were closed to third parties.

Data Analysis

Data analysis was performed with the SPSS 21.0 package software. The descriptive statistics used in data analysis were frequency, arithmetic mean, percentage values, and standard deviation. The normal distribution of the data was tested through the skewness and kurtosis values obtained by normal distribution analysis. For both scales, it was found that these values

were between -2 and $+2$. It was accepted that the study data showed a normal distribution, and parametric tests were performed for intergroup comparisons based on the demographic data and for determining associations between the scales. For the analysis of demographic variables, the independent groups T-test was used for intergroup comparisons, the one-way ANOVA test was used for multiple comparisons, and the Tukey's test was used as the post hoc test. Finally, a Pearson correlation analysis was conducted to determine the association between the secondary traumatic stress levels and cognitive flexibility levels of the participants.

Results

Demographic Information

Table 1 presents the demographic information of the participants. Among the participants, 11% were psychiatrists, 47.4% were psychologists, 25.7% were social workers, and 15.9% were child development specialists. Most of the participants were young, with 33.4% aged 30 years and below and 37.7% aged 31–40 years. Moreover, 18.7% of the sample were aged 41–50, and 10.3% were aged 51 years and above. Females constituted 80.2% of the sample. On the other hand, 19.8% of the sample consisted of males. Of the participants, 55.0% were married while 36.6% were single. Also, 43.1% of the participants had children. Monthly income was 30,000 TL and below in 17.7%, between 30,000 and 50,000 TL in 49.6%, and 50,000 TL and above in 32.6% of the participants. Those with an undergraduate degree constituted 51.5% of the sample group, while 38.2% of the participants had a master's degree and 10.3% had a doctorate degree. The data on years of professional experience reveal that 56.6% of the participants had a professional experience of 10 years and below, 24.8% had an experience of between 11 and 20 years, and 18.7% had an experience of 21 years and above. According to the data on trauma-related professional training, 72.8% of the participants had trauma-related professional training, 59.9% had supervision support, and 53.4% had psychotherapy support when needed. Moreover, 65.1% of the participants had a history of trauma in their lives.

Table 1
Demographic Information of the Sample Group (N=536)

		f	%
Profession	Psychiatrist	59	11.0
	Psychologist	254	47.4
	Social worker	138	25.7
	Child development specialist	85	15.9
Age	30 and below	179	33.4
	31–40	202	37.7
	41–50	100	18.7
	51 and above	55	10.3
Gender	Female	430	80.2
	Male	106	19.8
Marital status	Single	196	36.6
	Married	295	55.0
	Divorced	45	8.4
Having children	Yes	231	43.1
	No	305	56.9
Monthly income	30,000 and below	95	17.7
	30,000–50,000	266	49.6
	50,000 and above	175	32.6
Educational level	Undergraduate degree	276	51.5
	Master's degree	205	38.2
	Doctorate degree	55	10.3
Years of professional experience	5 years and below	160	29.9
	6–10 years	143	26.7
	11–20 years	133	24.8
	21 years and above	100	18.7
Had trauma-related professional training	Yes	390	72.8
	No	146	27.2
Had supervision support	Yes	321	59.9
	No	215	40.1
Had psychotherapy support	Yes	286	53.4
	No	250	46.6
Had a history of trauma	Yes	349	65.1
	No	187	34.9

Mean Scores of the Secondary Traumatic Stress Scale

Table 2 presents the mean scores obtained from the participants' replies to the Secondary Traumatic Stress Scale. According to the results, an overall mean score of $x = 1.96$ was obtained from the Secondary Traumatic Stress Scale, which denotes that the participants experienced very low secondary traumatic stress. The means scores obtained from the subscales also indicate a very low secondary traumatic stress.

Table 2*Mean Scores of Secondary Traumatic Stress Levels (n=536)*

	Minimum	Maximum	Mean	SD
Secondary Traumatic Stress mean scores	1.00	4.36	1.96	0.62
Avoidance	1.00	4.29	1.98	0.67
Arousal	1.00	4.80	2.02	0.73
Emotional violation	1.00	4.40	1.89	0.63

Mean Scores of Cognitive Control and Flexibility Scale

Table 3 presents the mean scores obtained from the participants' replies to the Cognitive Control and Flexibility Scale. According to the results, an overall mean score of $x = 5.05$ was obtained from the Cognitive Control and Flexibility Scale, and the participants had slightly above-average cognitive control and flexibility levels.

Table 3*Mean Scores of Cognitive Control and Flexibility Levels (n=536)*

	Minimum	Maximum	Mean	SD
Cognitive Control and Flexibility Scale mean scores	1.83	6.94	5.05	0.86
Cognitive control over emotion	1.22	7.00	4.50	1.16
Appraisal and coping flexibility	2.00	7.00	5.61	0.78

Correlation Analyses of the Association between the Results Obtained from the Scales

The Pearson correlation coefficient was examined in the correlation analysis to determine the correlation between the participants' secondary traumatic stress levels and cognitive control and flexibility levels. The results are shown in Table 4. It was found that there was a moderate negative correlation ($r = -0.463$, $p = 0.000$) between the participants' mean scores of secondary traumatic stress levels and cognitive flexibility levels.

The examination of the associations between the STSS subscales and the overall mean score of cognitive flexibility showed a moderate negative association between the avoidance subscale and the overall mean cognitive flexibility score ($r = -0.420$, $p = 0.000$), a moderate negative association between the arousal subscale and the overall mean cognitive flexibility score ($r = -0.478$, $p = 0.000$), and a weak negative association between the emotional violation subscale and the overall mean cognitive flexibility score ($r = -0.362$, $p = 0.000$).

When the effects of secondary traumatic stress on the subscales of the Cognitive Control and Flexibility Scale were studied, a moderate negative association was detected between the subscale of cognitive control over emotion and secondary traumatic stress ($r = -0.508$, $p = 0.000$) and a weak negative association was detected between the subscale of appraisal and coping flexibility and secondary traumatic stress ($r = -0.267$, $p = 0.000$).

Table 4

Table of Correlation between Secondary Traumatic Stress and Cognitive Flexibility

		Secondary Traumatic Scale Mean Score	Avoidance	Arousal	Emotional violation
Cognitive Control and Flexibility Scale Mean Score	Pearson Correlation	-.463**	-.420**	-.478**	-.362**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	536	536	536	536
Cognitive control over emotion and	Pearson Correlation	-.508**	-.467**	-.520**	-.395**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	536	536	536	536
Appraisal and coping flexibility	Pearson Correlation	-.267**	-.234**	-.282**	-.211**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	536	536	536	536

** . significant at the level of 0.001 (2-tailed).

Assessment Results Based on Professions

Table 5 shows the results of the one-way Anova test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their professions. Accordingly, the secondary traumatic stress levels of those who worked as child development specialists ($x = 2.16$) were significantly higher than those of psychiatrists ($x = 1.88$) and psychologists ($x = 1.87$), while the secondary traumatic stress levels were higher among social workers ($x = 2.04$) than psychologists ($p < 0.05$). However, no statistically significant differences were detected according to the participants' professions in the Cognitive Control and Flexibility Scale.

Table 5

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels According to Professions

	Profession	N	Mean	SD	F	P	DIFFERENCE		
Secondary Traumatic Stress Scale Mean Score	Psychiatrist	59	1.88	0.53	5.948	0.001**			
	Psychologist	254	1.87	0.60			3	>	2
	Social worker	138	2.04	0.63			4	>	1
	Child development specialist	85	2.16	0.66			4	>	2
Cognitive Control and Flexibility Scale Mean Score	Psychiatrist	59	5.04	0.83	0.662	0.576			
	Psychologist	254	5.10	0.85					
	Social worker	138	5.04	0.89					
	Child development specialist	85	4.95	0.87					

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Age

Table 6 shows the results of the one-way ANOVA test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their age groups. According to this table, the participants aged 30 and below had significantly higher secondary traumatic stress levels ($x = 2.11$) than those aged 31–40 years ($x = 1.91$) and those aged 41–50 years ($x = 1.79$) ($p < 0.05$). The assessment of cognitive flexibility levels shows that the participants aged 41–50 years ($x = 5.44$) and those aged 51 years and above ($x = 5.44$) had significantly higher levels of cognitive control and flexibility than lower age groups ($p < 0.05$).

Table 6

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Age

	Age	N	Mean	SD	F	p	DIFFERENCE		
Secondary Traumatic Stress Scale Mean Score	30 and below	179	2.11	0.68	6.352	0.000**	1 > 3	>	2
	31–40	202	1.91	0.58					
	41–50	100	1.79	0.54					
	51 and above	55	1.97	0.61					
Cognitive Control and Flexibility Scale Mean Score	30 and below	179	4.81	0.89	17.144	0.000**	3 > 4	>	1
	31–40	202	4.97	0.83					
	41–50	100	5.44	0.71					
	51 and above	55	5.44	0.77					

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Gender

Table 7 shows the results of the independent groups T-test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on gender. The results indicate that the secondary traumatic stress levels of the participants did not display any significant differences according to their gender. According to the overall mean scores of cognitive flexibility, the cognitive flexibility levels of male participants ($x = 5.32$) were significantly higher than female participants ($x = 4.99$) ($p < 0.05$). Similarly, the male participants had significantly higher levels of cognitive control over emotion ($x = 4.85$) and appraisal and coping flexibility ($x = 5.79$) than female participants ($p < 0.05$).

Table 7

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels according to Gender

	Gender	N	Mean	SD	t	P
Secondary Traumatic Stress Scale Mean Score	Female	430	1.97	0.65	0.424	0.672
	Male	106	1.94	0.48		
Cognitive Control and Flexibility Scale Mean Score	Female	430	4.99	0.87	-0.358	0.000**
	Male	106	5.32	0.77		

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Marital Status

Table- 8 shows the results of the one-way ANOVA Test that compared the participants' secondary traumatic stress and cognitive flexibility levels according to marital status revealed that single participants had significantly higher secondary traumatic stress levels ($x = 2.08$) compared to married ones ($x = 1.88$) ($p < 0.05$). When the results of the Cognitive Control and Flexibility Scale were examined, it was observed that married participants ($x = 5.15$) and divorced participants ($x = 5.25$) had significantly higher cognitive flexibility levels than single participants ($x = 4.87$) ($p < 0.05$).

Table 8

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Marital Status

	Marital status	N	Mean	SD	F	P	DIFFERENCE
Secondary Traumatic Stress Scale Mean Score	Single	196	2.08	0.65	6.183	0.002**	1 > 2
	Married	295	1.88	0.60			
	Divorced	45	1.95	0.49			
Cognitive Control and Flexibility Scale Mean Score	Single	196	4.87	0.88	7.712	0.000**	2 > 1 3 > 1
	Married	295	5.15	0.84			
	Divorced	45	5.25	0.80			

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Having Children

Table 9 presents the results of the independent groups T-test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their status of having children. According to the results, the secondary traumatic stress levels of the participants who did not have children ($x = 2.03$) were significantly higher than those who had children ($x = 1.87$) ($p < 0.05$). On the other hand, the results of the Cognitive Control and Flexibility Scale demonstrated that the participants who had children ($x = 5.23$) had significantly higher levels of cognitive flexibility compared to those who did not have children ($x = 4.92$) ($p < 0.05$).

Table 9

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Related to Having Children

	Having children	N	Mean	SD	t	p
Secondary Traumatic Stress Scale Mean Score	Yes	231	1.87	0.55	-3.131	0.002**
	No	305	2.03	0.66		
Cognitive Control and Flexibility Scale Mean Score	Yes	231	5.23	0.82	4.242	0.000**
	No	305	4.92	0.88		

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Monthly Income

Table 10 shows the results of the one-way ANOVA test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their monthly income. The results reveal that secondary traumatic stress levels were significantly higher among the participants with a monthly income of 30,000 TL and below ($x = 2.14$) and those with a monthly income of between 30,000 and 50,000 TL ($x = 2.00$) compared to the participants who had a monthly income of 50,000 TL and above ($x = 1.80$) ($p < 0.05$). The results of the cognitive flexibility status of the participants demonstrate that cognitive flexibility levels were higher among the participants who had a monthly income of 50,000 TL and above ($x = 5.27$) compared to the participants with a monthly income of 30,000 TL and below ($x = 4.85$) and those with a monthly income of between 30,000 and 50,000 TL ($x = 4.98$) ($p < 0.05$).

Table 10

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Monthly Income

	Monthly income	N	Mean	SD	F	P	DIFFERENCE		
Secondary Traumatic Stress Scale Mean Score	30,000 and below	95	2.14	0.61	11.520	0.000**	1 > 2	>	3
	30,000–50,000	266	2.00	0.64					
	50,000 and above	175	1.80	0.56					
Cognitive Control and Flexibility Scale Mean Score	30,000 and below	95	4.85	0.81	9.395	0.000**	3 > 2	>	1
	30,000–50,000	266	4.98	0.89					
	50,000 and above	175	5.27	0.82					

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Monthly Income

Table 11 presents the results of the one-way ANOVA test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their educational background. The participants who had an undergraduate degree had significantly higher levels of secondary traumatic stress ($x = 2.08$) than those with a master's degree ($x = 1.86$) and those with a doctorate degree ($x = 1.75$) ($p < 0.05$). According to the results of cognitive flexibility, the participants who had a master's degree ($x = 5.19$) and those with a doctorate degree ($x = 5.25$) demonstrated significantly higher levels of cognitive flexibility compared to those with an undergraduate degree ($x = 4.91$) ($p < 0.05$).

Table 11

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Educational Status

	Educational background	N	Mean	SD	F	P	DIFFERENCE
Secondary Traumatic Stress Scale Mean Score	Undergraduate degree	276	2.08	0.65	11.367	0.000**	1 > 2 1 > 3
	Master's degree	205	1.86	0.57			
	Doctorate degree	55	1.75	0.47			
Cognitive Control and Flexibility Scale Mean Score	Undergraduate degree	276	4.91	0.89	7.548	0.001**	2 > 1 3 > 1
	Master's degree	205	5.19	0.84			
	Doctorate degree	55	5.25	0.73			

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Years of Professional Experience

According to the results of the one-way ANOVA test that compares the participants' secondary traumatic stress and cognitive flexibility levels based on their years of professional experience (Table 12), secondary traumatic stress levels were significantly higher among the participants with five or fewer years of professional experience ($x = 2.13$) than those with more than five years of professional experience ($p < 0.05$). The results obtained from the Cognitive Control and Flexibility Scale show that the participants with five or fewer years of professional experience had significantly lower cognitive flexibility ($x = 4.75$) than those with longer years of professional experience ($p < 0.05$).

Table 12

Results of the One-Way ANOVA Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Years of Professional Experience

	Years of Professional Experience	N	Mean	SD	F	p	DIFFERENCE
Secondary Traumatic Stress Scale Mean Score	5 years and below	160	2.13	0.66	6.220	0.000**	1 > 2,3,4
	6–10 years	143	1.94	0.62			
	11–20 years	133	1.86	0.58			
	21 years and above	100	1.86	0.53			
Cognitive Control and Flexibility Scale Mean Score	5 years and below	160	4.75	0.89	13.017	0.000**	1 < 2,3,4 2 < 4
	6–10 years	143	5.07	0.80			
	11–20 years	133	5.13	0.84			
	21 years and above	100	5.40	0.80			

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Having Trauma-Related Professional Training

Table 13 shows the results of the independent groups t-test that compares secondary traumatic stress and cognitive flexibility levels based on the status of having trauma-related professional training. According to the results, the secondary traumatic stress levels of the participants who did not have trauma-related professional training ($x = 2.11$) were significantly higher than those who did ($x = 1.90$) ($p < 0.05$). The results of the Cognitive Control and Flexibility Scale indicate that the participants who had trauma-related professional training ($x = 5.14$) had significantly higher cognitive flexibility levels than those who did not ($x = 4.81$) ($p < 0.05$).

Table 13

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Having Trauma-Related Professional Training

	Trauma-Related Professional Training	N	Mean	SD	t	P
Secondary Traumatic Stress Scale Mean Score	Yes	390	1.90	0.58	-3.538	0.000**
	No	146	2.11	0.68		
Cognitive Control and Flexibility Scale Mean Score	Yes	390	5.14	0.83	4.082	0.000**
	No	146	4.81	0.91		

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Having Supervision Support

According to the results given in Table 14, the levels of secondary traumatic stress were significantly higher among the participants who did not have supervision support ($x = 2.05$) compared to those who did ($x = 1.90$) ($p < 0.05$). However, according to the Cognitive Control and Flexibility Scale results, the groups had no statistically significant differences.

Table 14

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Having Supervision Support

	Supervision support	N	Mean	SD	t	P
Secondary Traumatic Stress Scale Mean Score	Yes	321	1.90	0.58	-2.810	0.005**
	No	215	2.05	0.67		
Cognitive Control and Flexibility Scale Mean Score	Yes	321	5.07	0.86	0.508	0.611
	No	215	5.03	0.87		

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Having Psychotherapy Support

According to the results of the independent groups t-test given in Table 15, no significant association was detected between the participants who had and did not have psychotherapy support in terms of overall mean scores from the STSS. Similarly, no statistically significant

differences were detected in the results of the Cognitive Control and Flexibility Scale between the participants who had and did not have psychotherapy support.

Table 15

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Having Psychotherapy Support

	Psychotherapy support	N	Mean	SD	t	P
Secondary Traumatic Stress Scale Mean Score	Yes	286	1.91	0.59	-1.891	0.059
	No	250	2.01	0.65		
Cognitive Control and Flexibility Scale Mean Score	Yes	286	5.08	0.85	0.808	0.420
	No	250	5.02	0.87		

** indicates a significant difference at the $p < 0.05$ level.

Assessment Results Based on Having a History of Trauma

Table 16 presents the results of the independent groups t-test that compares secondary traumatic stress and cognitive flexibility levels of the participants based on their status of having a history of trauma in their lives. The results did not show any statistically significant differences between the participants who had and did not have a history of trauma in their lives in the results from the STSS and the Cognitive Control and Flexibility Scale.

Table 16

Results of the Independent Groups T-Test Showing the Comparison of Secondary Traumatic Stress and Cognitive Flexibility Levels Based on Having a History of Trauma

	History of trauma	N	Mean	SD	t	P
Secondary Traumatic Stress Scale Mean Score	Yes	349	1.97	0.61	0.488	0.625
	No	187	1.94	0.64		
Cognitive Control and Flexibility Scale Mean Score	Yes	349	5.03	0.83	-0.827	0.409
	No	187	5.09	0.92		

** indicates a significant difference at the $p < 0.05$ level.

Discussion

Aimed at investigating the association between cognitive flexibility and secondary traumatic stress among professionals working as counselors and therapists in the area of mental health, this study was designed to fill a knowledge gap. The extant literature has generally focused on the association between cognitive flexibility and PTSD, and significant associations have been revealed between cognitive flexibility and PTSD (Daneshvar et al., 2020). For instance, cognitive flexibility was found to be negatively associated with symptoms of post-traumatic stress and positively associated with post-traumatic growth (Keith et al., 2015). However, few studies exist on the association between cognitive flexibility and secondary trauma, particularly within the context of mental health professionals.

The results of this study indicate that the participating professionals experienced a very low secondary traumatic stress level. This result is consistent with other literature (Devilly et al., 2009; Erdener, 2019). This particular finding of the present study might be because

professionals with a higher level of secondary traumatic stress preferred not to complete the questionnaire form during the data collection stage. Furthermore, mental health professionals may believe they are expected to be stronger, which may have caused them to follow this expectation when replying to the items. In time, these professionals might be desensitized to the traumatic experiences they encounter and might regard the effects of trauma as ordinary parts of their lives. Desensitization occurs when mental health professionals display an unemotional attitude in their approach to their clients (Kaçmaz, 2005). Moreover, lower trauma levels may be associated with the knowledge that the effects of traumas are not always negative, and traumas may also have positive outcomes as well. According to studies on post-traumatic growth, better and long-term adaptation, effective stress management, a lower risk of PTSD, and higher life satisfaction after trauma are related to cognitive flexibility (Block & Kremen, 1996; Metzl, 2009).

The cognitive control and flexibility levels of the counselors and therapists in the current study were slightly above moderate. Other studies have shown that cognitive and behavioral coping methods can be used effectively (Hyttén & Halse, 1989; Regehr et al., 2002). The experiences that people are exposed to disrupt their cognitive schemas and boost their cognitive flexibility (Ritter et al., 2012). Interpersonal interaction has been regarded as an important issue among the risk factors of depression and psychological well-being (Durak, 2024). One argument is that counselors and therapists might have undergone a schema change due to their interactions with their clients.

The results of this study show that secondary traumatic stress levels were higher among child development specialists than psychiatrists and psychologists, which aligns with the findings in the literature. It has been stated that the professional group with the highest level of secondary traumatic stress is child development specialists, followed by nurses, social workers, and psychologists (Orhan, 2020). Similarly, high emotional exhaustion has been detected among child development specialists working in special education and rehabilitation centers (Arucan, 2008). The work environment and satisfaction with this environment are important in terms of the quality of the work performed (Taştepe & Köksal Akyol, 2014). In parallel with this, the effects of workplace factors (e.g., income, adequacy of working conditions, and satisfaction with working life) on developing STS symptoms have been determined (Carmel & Friedlander, 2009; Sprang et al., 2007). The fact that children, the age group in which child development specialists work, are more vulnerable, fragile, and needy may also provide information about the high trauma exposure of this professional group.

The current study also found that secondary traumatic stress levels were higher among social workers than psychologists. This finding may be related to various factors. Social workers provide services to disadvantaged and vulnerable segments of society and frequently encounter crises related to their profession (Yıldırım, 2016). One factor related to this may be adequate supervision. For example, Şahin-Taşgın (2019) noted that they do not receive supervision outside of the undergraduate and graduate education process. Adequate supervision support will help them reduce their emotional burden and negative judgments to cope with these difficult situations so that it does not become a part of their professional activities (Gökçearslan, 2017), which may have made them more vulnerable and fragile to stress. Some other studies also reported that secondary traumatic stress varies across professional groups (Altekin, 2014; Yeşil et al., 2009; Zara & İçöz, 2015).

In this study, younger participants had higher STS scores. This result is consistent with the findings in the literature that PTSD decreases with increasing age (Çolak et al., 2012; Erdener, 2019; Haksal, 2007) and that indirect effects of traumatic experiences may affect young professionals more than older professionals (Adams et al., 2001; Bober & Regehr, 2006; Carmel & Friedlander, 2009; Creamer & Liddle, 2005; Çolak et al., 2012; Fullerton et al., 2004; Haksal, 2007; Way et al., 2004). Erdener (2019) noted that professionals' psychological resilience increases with age, and they have lower STS levels. Accordingly, one rationale may

be that older professionals can use cognitive and behavioral coping methods and problem-solving strategies more effectively as they gain experience. On the other hand, some studies have stated that the effect of secondary trauma increases with age (Altekin, 2014), and others have found no significant relationship between secondary traumatic stress and age (Cebbar, 2021; Gündüz, 2020).

According to this study's results, older participants' cognitive flexibility levels were significantly higher than those of younger participants. Cognitive flexibility also refers to a learning process. As individuals age, they adjust their behaviors with new experiences, learn new behaviors and thinking skills, and can perform a more effective adaptation process. Thus, the level of cognitive flexibility that increases with age reduces STS. While some studies support this result (Koç, 2020; Oral, 2019), other studies did not find a significant difference (Asıcı & İkiz, 2015; Çelik, 2022; Demirci & Yöyen, 2020; Fukuzaki & Takeda, 2022).

Current results indicate that the secondary traumatic stress levels of the participants did not vary significantly according to gender. Some other studies also found similar results that the secondary traumatic stress levels of participants were not significantly associated with gender (Cebbar, 2021; Creamer & Liddle, 2005; Gündüz, 2020; Hensel et al., 2015; Pak et al., 2017). In contrast with these results, some studies indicate a significant association between gender and secondary trauma (Ozer et al., 2003; Yeşil et al., 2009). Male participants had higher cognitive flexibility levels, which can be associated with their gender roles. While these roles attribute sensitivity and sentimentality to women, they expect men to adopt roles that involve characteristics such as strength, dominance, and endurance (Bora & İnce, 2021). Therefore, the assumption could be made that the male participants displayed behaviors consistent with these roles and hid their emotions, which could be considered a weakness.

In the results obtained from the comparison of traumatic stress and cognitive flexibility levels according to marital status, the STS levels of single participants were significantly higher than those of married participants. This result is consistent with the findings of Çıvgın (2015). One reason is that a person's psychological resilience associated with marriage may reduce the impact of STS in work life. Perhaps being married has a protective and therapeutic function in overcoming difficult emotions and experiences because they share their challenging experiences and relax in the face of life's difficulties. As supported by the current study, having children also reduces secondary traumatic stress. Therefore, being married and having children may be an advantage for individuals. However, different findings were found in the literature. While one study found higher PTSD levels in married individuals (Yılmaz & Şahin, 2007), some studies showed that PTSD did not differ according to marital status (Cebbar, 2021; Gündüz, 2020; Kranda, 2019; Kurt, 2022; Özkul, 2019).

The results of the Cognitive Control and Flexibility Scale show that the cognitive flexibility of married and divorced participants was significantly higher than that of single participants. Similar significant relationships supporting this result have been found in several other studies (Arslan, 2022; Karakaş, 2022; Dursun, 2021; Koç, 2020; Küçüker, 2016). One reason for this association may be that being married acts as a protective shield for professionals against the effects that may arise from the traumatic experiences of their clients. Perhaps marriage increases characteristics such as seeing people have more cognitive options, being more flexible and understanding, and developing self-sufficiency. In this study, divorced participants also had high cognitive flexibility levels. This finding may suggest that these individuals have emerged from a difficult situation, such as divorce, stronger by facing this crisis and have acquired the ability to look at complex problems from multiple perspectives. In addition, since divorce is a type of trauma, it may be a period in which one learns how to cope with trauma through personal experience. Thus, we may assume that they can effectively adapt their cognitive processes to unexpected conditions and are less negatively affected when working with traumatic clients. The high life satisfaction of married professionals (Yenihan et

al., 2016) and the perceptions of psychological resilience related to family harmony (Ceyhan, 2023) can be positively associated with cognitive flexibility and low secondary traumatic stress levels.

In the relationship between the income levels of the participants and traumatic stress and cognitive flexibility, the results found that participants with low monthly income showed significantly higher traumatic stress and lower cognitive flexibility than those with high monthly income. One argument is that reducing economic concerns will protect against stress, allowing for greater use of educational and social resources. Similar to these results, others have found a negative relationship between income level and STS (Özkul, 2019; Tüfekçi, 2011). Nonetheless, some studies have found a positive relationship between income level and cognitive flexibility (Arslan, 2022; Dursun, 2021; Koç, 2020; Küçüker, 2016), while other studies did not find significant differences (Çelik, 2022; Demirci & Yöyen, 2020; Küçüker, 2016).

According to the results obtained, the traumatic stress levels of those who have been in the profession for five years or less were significantly higher than those who have been in the profession for five years or more. The cognitive flexibility levels were significantly lower than those in the profession for more years. These results are consistent with the findings of studies showing that experts with shorter professional experience are more affected by the indirect effects of traumas (Carmel et al., 2009; Michalopoulos & Aparicio, 2012; Way et al., 2007). It can also be said that these professionals become accustomed to the phenomena they encounter over time and become desensitized (Figley, 1998; Sabin-Farel & Turpin, 2003; Shapiro, 1995). The low STS levels in this study may indicate such desensitization. Working hours, getting used to the profession and the institution, encountering a wide variety of cases and finding solutions to their problems, and gaining skills and rich experiences through peer supervision and in-service training can impact the broadening of a person's perspective and increase cognitive flexibility. This may reduce the level of being affected by traumas.

The secondary traumatic stress levels of the participants who did not have trauma-related professional training in this study were significantly higher than those who did. Thus, trauma therapists should undergo training on the necessary techniques and methods to intervene in traumas rapidly and effectively in case of a trauma case. Concerning the effect of trauma on mental health professionals, Trippany et al. (2004) stated that professional training is beneficial in reducing secondary trauma. Others have observed that trauma-related training decreases the levels of secondary traumatic stress (Altekin, 2014; Erdener, 2019). Moreover, the assumption may also be made that trauma training facilitates mentalizing, which refers to the capacity to understand and integrate mental states (feelings, emotions, desires, and intentions) behind one's own and others' actions (Fonagy et al., 1998).

The current results also indicate that the levels of secondary traumatic stress were significantly higher among the participants who did not have supervision support than those who did. This result is consistent with the other studies (Altan, 2020; Erdener, 2019; Zimberoff & Hartman, 2014). Thus, it can be said that counselors who do not receive supervision will be more reluctant to meet with their clients, may feel more discomfort and inadequacy, and, therefore, will be less effective in helping their clients.

Limitations and Recommendations for Future Research

The current investigation has several limitations. First, the current study used a cross-sectional design to examine the relationship between cognitive flexibility and STS among mental health workers. Future studies should use longitudinal designs or examine the causal relationship between these variables by using experimental designs. Future researchers could

examine the effects of potential mediating variables between cognitive flexibility and secondary traumatic stress in mental health professionals.

The sample group of this study includes only psychiatrists, psychologists, social workers, and child development specialists from mental health professional groups. Future studies may be conducted again with different and broader sample groups involving other professional groups (such as psychological counselors and psychiatric nurses). The majority of the sample in this study was female and psychologists. Other studies may include more males and more psychiatrists.

Finally, in the current study, a self-report scale was used to measure secondary traumatic stress. Participants may not have reflected on sensitive situations such as traumatic stress for various reasons. Future studies can measure secondary traumatic stress in a clinical setting.

Implications

Despite its limitations, the current study has implications for future steps that may help reduce the STS levels of mental health professionals and boost their cognitive flexibility levels. First, supportive measures in the areas of protection, prevention, and treatment for mental health professionals who may work in the field of trauma should be taken. An institutional structure can be created to help mental health workers develop self-awareness, recognize the risks they face in their work lives, and cope with these problems. Organizing routine experience-sharing meetings where managers and employees come together may be helpful. In addition, it will be useful to spread teamwork that will increase interprofessional cooperation and support. The development of case management systems in each institution can provide this.

Second, Cömertpay and Durak (2024) drew attention to the fact that teachers should develop trauma coping skills in dealing with trauma, secondary trauma, coping with trauma, and approaching students with traumatic experiences. Thus, priority can be given to extending certified training programs that will improve the professional skills of mental health workers. Trauma-related in-house training and psychotherapy training programs may be offered regularly. Moreover, these training programs should be repeated, and online training options should be provided to ensure the participation of as many professionals as possible.

Third, periodically observing trauma symptoms in employees and making measurements and evaluations when necessary will ensure that individuals become aware of risk factors and protective factors for secondary trauma and methods of coping with the effects of traumatic experiences.

Fourth, counselors should be supported by peer, individual, and group supervision. Inbar and Ganor (2003) presented four distinct approaches aimed at protecting professionals against the effects of secondary traumatic stress and vicarious trauma and mitigating their effects. These include cognitive-behavioral and systemic social-organizational interventions at the individual and professional levels. According to Quinn et al. (2019), adequate supervision may serve as a significant protective factor for reducing secondary trauma symptoms among social workers. In addition, more information and skill content regarding secondary traumatic stress and coping strategies can be added to universities' undergraduate and graduate education curricula. Professionals with disadvantages who require more significant support should be identified and supported. Furthermore, younger counselors with less professional experience should receive trauma-related training faster and have easier access to supervision support. At this stage, feedback is important to benefit better from supervision support. Feedback helps individuals understand what they need to do to improve and their strengths and weaknesses. When people

understand their strengths and weaknesses, they can play into their strengths to benefit the entire team (Durak et al., 2024).

Fifth, mental health professionals should pay attention to their emotions and regulate them for their well-being (Miller & Sprang, 2017; Pletzer et al., 2015). Self-care is not a luxury in mental health professions but a clinical and ethical necessity (Norcross & Guy, 2007). Therefore, in-house programs that will contribute to increasing the self-care of mental health professionals and improving their psychological and physical health and professional functioning should be developed.

Finally, examining gender-specific risks is essential to increase women's cognitive flexibility and improve their physical and emotional well-being. Workplaces should support positive discrimination policies that increase women's creativity and support their ability to cope with stress. Risks should be reduced by identifying the reasons that may cause women to be more traumatized. For example, the emotion regulation technique in cognitive reappraisal can be an effective strategy (Gross & John, 2003). Therefore, women can be provided with more support in emotion regulation.

Conclusion

In this study, a negative significant relationship was found between the level of cognitive flexibility and the level of secondary traumatic stress. The level of STS, child development specialists, and social workers, being single, having children, having a lower monthly income, having a bachelor's degree compared to having a master's or doctorate degree, having a shorter tenure in the profession, not having received trauma training and supervision support, and age of participants were associated with a higher STS level. The cognitive flexibility of the participants, being in an older age group, being male in terms of gender, being married or divorced, having children, having a higher monthly income, having a master's or doctorate degree, having more years of experience in the profession, and having received trauma training had a higher level of cognitive flexibility.

Mental health professionals frequently meet with clients who have experienced traumatic experiences due to the nature of their profession. The literature points out that adverse effects on the counselor can significantly compromise therapeutic work and harm clients (Johnson et al., 2018; Lawson, 2007). The findings of the current study emphasize the importance of increasing the awareness of counselors and therapists working in the field of mental health about the risks related to secondary traumatic stress and their cognitive flexibility levels and provide information about how they may be supported through training, institutional support, and regulations in other fields.

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