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Research Article

Investigation of Early Maladaptive Schemas and Coping Strategies in Turkish Adults under Probation

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Purpose. The aim of the study was to examine the relationships of early maladaptive schemas, overcompensation, and avoidant behaviors with sociodemographic, psychological, legal, and substance use status of individuals under probation due to illicit substance use. *Methods.* The data of this cross-sectional study were collected from adults under probation through self-report. The dependent variables were early maladaptive schemas, overcompensation, and avoidant behaviors. Sociodemographic, legal, and psychological characteristics and characteristics related to illicit substance use were the independent variables of the study. Student-t test and ANOVA or Mann–Whitney-U and Kruskal–Wallis tests were used in bivariate analyses. Multiple linear regression analysis was used in multivariate analyses. *Results.* A total of 300 adult individuals under probation participated in the study, and the inclusion rate was 93.5%. The mean age of the study group was 27.96 ± 6.40 years. The amount of smoking ($B = 0.65$ (95% CI: 0.04–1.27), $p = 0.038$), frequency of illicit substance use ($B = 12.15$ (95% CI: 2.04–22.25), $p = 0.019$), and childhood violence ($B = 29.24$ (95% CI: 16.92–41.56), $p < 0.001$) were explanatory for schema scores (R^2: 0.240). Frequency of illicit substance use ($B = 7.06$ (95% CI: 0.58–13.54), $p = 0.033$) and childhood violence ($B = 9.18$ (95% CI: 1.36–17.00), $p = 0.022$) were explanatory for compensation scores (R^2: 0.083). The amount of smoking ($B = 0.49$ (95% CI: 0.22–0.76), $p = 0.001$), frequency of illicit substance use ($B = 5.16$ (95% CI: 0.67–9.65), $p = 0.025$), being treated for substance use disorder ($B = 6.74$ (95% CI: 0.30–13.17), $p = 0.040$), and experiencing violence in childhood ($B = 6.02$ (95% CI: 0.59–11.45), $p = 0.030$) were explanatory for avoidant scores (R^2:0.169). *Conclusion.* Childhood violence and frequency of illicit substance use were associated with early maladaptive schemas, overcompensation, and avoidance. Smoking appears to be a behavioral way of coping with both early maladaptive schemas and schemas through avoidance.

1. Introduction

Addictive substances are very diverse, and their use is a legal problem and causes widespread social problems all over the world [1]. Probation, which is one of the legal consequences of crimes related to substance use, is a judicial sanction model in which the education and other supports needed by an individual at any stage of the judicial process are provided within the framework of a legal legislation. Probation is an execution and rehabilitation model that is widely used in the world, and its effectiveness needs to be increased [2].

In the current implementation of probation, the focus is mainly on whether the individual uses the substance in question [2], and interventions for the individual reasons underlying their substance use are often overlooked [3, 4]. Individual reasons that may lead to substance use can be effective from the early stages of life. In the probation procedure, cases who are often evaluated on the basis of their current situation cannot reach the individual support they need due to the lack of accurate identification of the risks from their past. The probation population often faces repetitive sanctions against the law for similar behaviors. There is a need to understand the root causes of the problem and to provide individual protective and compensation equipment. Although probation is an approach that focuses on the present of individuals, in fact, a significant part of the problems that this group is experiencing today are related to their past. Therefore, there is a need for new approaches that

focus not only on substance use but also on individuals' psychological burdens from the past, such as a history of violence [5]. Since schema therapy (ST) is a model that emphasizes that early life experiences are the cause of the problem we face today, it can be a guide for the improvement of individuals who have entered the probation process as a result of substance use.

Schema therapy examines our cognitive schemas, which are shaped by our experiences and whether our basic needs are met from childhood. It is an approach that argues that the person shapes their perceptions of themselves and the outside world based on these characteristics. ST has been shown to help criminals and substance users prevent relapse [6–14].

According to Young's definition of schema, early maladaptive schemas are defined as lifelong, pervasive, comprehensive cognitive patterns that include memories, emotions, cognitions, and bodily sensations and that are valid for the individual's self and relationships [14]. Schemas not only shape the individual cognitively and behaviorally but also pave the way for the harmful conditions of childhood to be recreated as a vicious circle in adulthood [15]. The schema therapy model states that people who surrender to their schemas have deterioration in their perception of painful situations and events, are stuck in some schematic patterns that prevent them from meeting their emotional needs, and cannot find healthy solutions. According to this phenomenon, which is also referred to as repetition compulsion in psychoanalysis, individuals re-enact similar childhood traumas in their adult lives, at a symbolic or real level, with almost the same decor and scenario [15, 16]. Considering the prevalence of maltreatment such as physical abuse, sexual abuse, emotional abuse, and neglect in childhood [17, 18], examining problems in adulthood from the perspective of ST may be instructive. Individuals develop behavioral responses in order to manage the emotional tension created by their schemas triggered by various life events. These behavioral responses are called schema coping styles [14, 16]. The stress responses of all living beings to possible dangers are freeze, fight, or flight. In the ST model, freezing corresponds to schema surrender, fighting corresponds to schema overcompensation, and flight corresponds to schema avoidant. Although they may be functional in childhood, the behaviors triggered by schemas in adulthood create disadvantages for individuals [14]. In schema overcompensation, individuals do the opposite of the schema by thinking and feeling as if the opposite of the schema is true and struggle with the schema in this way [14, 15]. When avoidance is used, people begin to construct their schemas in such a way that they never trigger them. When a feeling or thought about the schema arises, they may engage in various behaviors to push it back into the depths of the mind: excessive alcohol drinking, drug use, or overeating [14–16].

The aim of the study is to assess the early maladaptive schemas of individuals under probation for substance use and the overcompensation and avoidant behaviors they use to cope with activation of these schemas. In addition, to evaluate the relationship between these behaviors and individuals' sociodemographic, psychological, legal characteristics, and substance use status.

2. Materials and Methods

This study, which has a cross-sectional design, was conducted in a Directorate of Probation in Turkey between August and November 2019 by collecting data by using the self-report method.

2.1. Population and Sample of the Study.

The population of the study consisted of 1225 adult individuals residing in one of Turkey's western cities and who were liable for substance use. The minimum sample size was calculated as 321 people from the population of 1225 by using the "Epi-info v5.5.10" program based on 50% prevalence, 5% margin of error, 95% confidence interval, and 10% reserve. Simple random sampling was preferred in sample selection. The inclusion criteria were being under probation due to substance use, volunteering to participate in the study, and being literate enough to fill in the forms. A total of 306 individuals under probation were included in the study, and 6 people with missing information on their forms were excluded from the study. The research was completed by analyzing the research forms of a total of 300 participants.

2.2. Variables.

The dependent variables of the study were substance users' early maladaptive schemas, overcompensation behaviors, and avoidance behaviors. For the measurement of the early maladaptive schemas variable, the Turkish version of the Young Schema Questionnaire-Short Form 3 (YSQ-SF3) developed by Young [19] was applied [20]. Young Compensation Inventory (YCI) was used to measure the variable of overcompensation behaviors [21]. Young-Rygh Avoidance Inventory (YRAI) was used to measure the avoidant behaviors variable [22]. All the scales are 6-point Likert-type without a cutoff point. The higher scores emphasize higher levels of the existence of schema, compensation, and avoidant behaviors.

The independent variables of the study were sociodemographic, illicit substance use, legal, and psychological characteristics. Sociodemographic characteristics were tried to be determined by age, education level, marital status, occupation, and income level variables. Illicit substance use which is mostly seen as cannabinoids, psychostimulants, and opioid use is subjected to probation according to Turkish Penal Code. In order to investigate illicit substance use characteristics, age of initiation, frequency of use, history of treatment, and paternal illicit substance use were questioned. Additionally amount of cigarette use and maternal alcohol use were examined. The variables related to the legal characteristics of the participants were whether they had ever received a probation measure and whether they had ever been convicted in prison. In order to determine psychological characteristics, the variables of history of self-harm, history of psychiatric treatment, being subjected to violence in childhood, and experiencing physical violence in

childhood were questioned. The variable of childhood violence includes all physical, verbal, psychological, and sexual violence subdimensions of violence.

2.3. Data Analysis. The normality assumption was checked with the Shapiro–Wilk test. Student-t test and Mann–Whitney-U test were applied to examine the difference in mean between the two groups. ANOVA and Kruskal–Wallis tests were applied to examine the difference between more than two groups. Multiple linear regression analysis was used for multivariate comparisons. The significance level was taken as $p < 0.05$. Data analysis was conducted in IBM SPSS Statistics 23.0 program.

3. Results

43% of the research group is between the ages of 26 and 35. 75% of the participants were unmarried, and 56.7% were employed as laborers. 57.3% had an income level above the minimum wage of the period. 89.3% of the individuals under probation smoked cigarettes. 49% of the group started substance use before the age of 18, and 58% used substances a few days a month or more frequently. 29.7% had experienced violence in childhood, and 21.3% of those who had experienced violence had experienced physical violence. All characteristics of the individuals under probation are presented in the first part of the Tables 1–3.

The schema subdimension total mean scores and standard deviation values of the Young Schema Questionnaire-SF3 are presented in Figure 1. Punitiveness schema ($\overline{X} = 24.6 \pm 5.6$) stands out as the highest schema dimension. Entitlement/Insufficient Self-Control schema ($\overline{X} = 21.7 \pm 6.9$) and Approval-Seeking schema ($\overline{X} = 19.3 \pm 5.7$) are the other schema dimensions with the highest scores.

The mean scores and standard deviation values of the total scores obtained by the individuals under probation from the subdimensions of Young Compensation Inventory and Young-Rygh Avoidance Inventory are presented in Figure 2. Control ($\overline{X} = 27.5 \pm 7.0$) being the compensation subdimension with the highest compensation score is followed by Counterdependency ($\overline{X} = 17.82 \pm 5.3$) and Status Seeking ($\overline{X} = 17.26 \pm 6.5$). Suppression of Anger ($\overline{X} = 16.9 \pm 3.9$) is the highest rated avoidance subdimension, followed by Intentionally Not Thinking About Upsetting Things ($\overline{X} = 12.99 \pm 3.97$) and Psychosomatic Symptoms ($\overline{X} = 11.99 \pm 5.3$).

The analyses between the Young Schema Questionnaire, which was used to measure the early maladaptive schemas of the individuals under probation, and the independent variables are presented in Table 1. When the relationship between sociodemographic variables and early maladaptive schemas was examined, the mean schema scores of individuals with an educational level of secondary school and below were significantly higher than those with higher educational level ($p < 0.05$). The mean schema scores of those who smoked more than 21 cigarettes per day, those who started illicit substance use before the age of 18, those who used illicit substances more frequently, those who were

treated for substance use disorder, and those whose fathers used illicit substances were significantly higher ($p < 0.05$). The mean schema scores of those who had at least two more probation measures in the past and those who were convicted in prison were significantly higher ($p < 0.05$). The mean schema scores of those who had harmed themselves at least twice, those who had received psychiatric treatment in the past, those who had been exposed to violence in childhood, and those who had been exposed to physical violence in childhood were significantly higher ($p < 0.05$). No statistically significant relationship was observed between the variables of age, marital status, occupation, income level, maternal alcohol use, and Young Schema Questionnaire ($p > 0.05$).

The analyses between the Young Compensation Inventory, which was used to measure the compensation behaviors of the individuals under probation, and the independent variables are presented in Table 2. The mean compensation scores of those who smoked more than 10 cigarettes a day, started illicit substance use before the age of 18, used substances a few days a month or more frequently, stated that their mothers never used alcohol, had at least two previous probation cases, and experienced violence in childhood were significantly higher than the others ($p < 0.05$). No statistically significant relationship was found between the variables of age, education level, marital status, occupation, income level, substance treatment history, paternal substance use, number of convictions in prison, self-harm, psychiatric treatment history, and Young Compensation Inventory ($p > 0.05$).

The analyses between the Young-Rygh Avoidance Inventory used to measure the avoidant behaviors of the individuals under probation and the independent variables are presented in Table 3. The mean avoidance scores of those who smoked more than one pack of cigarettes per day, those who used substances a few days a month or more frequently, those who were treated for substance use disorder at least once, had illicit substance use in their fathers, had at least one probation measure in the past, exhibited self-harming behavior at least twice in the past, had a history of psychiatric treatment, experienced violence in childhood, and experienced physical violence among those who experienced violence were significantly higher than the others ($p < 0.05$). No statistically significant relationship was found between the variables of age, education level, marital status, occupation, income level, maternal alcohol use, number of convictions in prison, and Young-Rygh Avoidance Inventory ($p > 0.05$).

Multiple linear regression analyses conducted to identify the determinants of early maladaptive schemas, compensation, and avoidant behaviors of the individuals under probation are presented in Table 4.

The amount of cigarettes, frequency of illicit substance use, and childhood violence are significant predictors of schema scores (R^2: 0.240). The constructed model explains 24.0% of the schema scores. Each unit increase in the amount of cigarettes causes a 0.65-unit increase in the schema score, $B = 0.65$ (95% CI: 0.04–1.27), $p = 0.038$. When the frequency of illicit substance use increases by one unit,

TABLE 1: Sociodemographic, illicit substance use, legal, and psychological characteristics associated with early maladaptive schemas.

	Individuals under probation		Early maladaptive schemas	p
	n	%	YSQ mean score ± SD or mean rank	
Sociodemographic characteristics				
Age				0.734
18–25	127	42.3	220.17 ± 52.44	
26–35	129	43.0	223.61 ± 53.30	
36+	44	17.7	216.84 ± 51.83	
Level of education[b]				0.001*
Primary school	39	13.0	231.90 ± 48.47	
Middle school	119	39.7	232.36 ± 51.52	
High school-associate degree	109	36.3	212.23 ± 52.27	
Undergraduate-graduate	33	11.0	197.58 ± 51.02	
Marital status				0.554
Single	206	68.7	222.69 ± 51.65	
Married	75	25.0	215.64 ± 57.0	
Divorced/separated/widowed	19	6.3	226.37 ± 52.60	
Occupation				0.343
Worker	170	56.7	224.09 ± 50.81	
Officer	3	1.0	167.67 ± 44.77	
Tradesmen	45	15.0	221.96 ± 55.92	
Irregular/casual work	10	3.3	214.30 ± 52.93	
Unemployed	29	9.7	226.59 ± 48.39	
Self-employment	11	3.7	197.73 ± 45.13	
Student	32	10.7	214.75 ± 62.08	
Income level				0.131
0–1500 TL	51	17.0	227.94 ± 54.50	
1501–2500 TL	77	25.7	220.81 ± 53.95	
2501–3500 TL	99	33.0	221.42 ± 49.94	
3501–5000 TL	43	14.3	228.65 ± 52.34	
5001 TL above	30	10.0	198.93 ± 52.06	
Characteristics of substance use				
Amount of cigarette use				<0.001**
Never	32	10.7	208.59 ± 50.89	
1–10 cigarettes	89	29.7	207.84 ± 46.73	
11–20 cigarettes	152	50.7	225.09 ± 52.82	
21+	27	9.0	257.85 ± 53.37	
Age of illicit substance use initiation				<0.001**
18	147	49.0	236.59 ± 50.81	
19–25	113	37.7	207.08 ± 50.58	
26+	40	13.3	204.25 ± 49.37	
Frequency of illicit substance use				<0.001**
Never ever	15	5.0	198.53 ± 57.69	
A few days a year	110	36.7	203.59 ± 50.44	
A few days a month and more often	175	58.3	234.14 ± 49.84	
Illicit substance treatment history				0.001*
Never	272	90.7	217.79 ± 50.46	
1 time	18	6.0	246.83 ± 61.15	
2 times	10	3.3	266.70 ± 65.15	
Maternal alcohol use[b]				0.077
A few days a week	7	2.3	177.71	
A few days a month	13	4.3	158.69	
A few days a year	39	13.0	117.91	
Never	241	80.3	154.54	
Illicit substance use of the father[a]				0.019*
Yes	8	2.7	221.25	
No	292	97.3	148.56	

TABLE 1: Continued.

	Individuals under probation		Early maladaptive schemas	p
	n	%	YSQ mean score ± SD or mean rank	
Legal characteristics				
Number of probation measure				0.001*
Never	215	71.7	215.05 ± 51.07	
1 time	54	18.0	227.35 ± 54.89	
2 times or more	31	10.3	252.74 ± 47.76	
Number of convictions in prison				0.001*
Never	245	81.7	215.74 ± 49.76	
1 time	33	11.0	241.91 ± 52.69	
2 times	22	7.3	250.36 ± 66.98	
Psychological characteristics				
Self-harm				0.001*
Never	235	78.3	215.26 ± 50.66	
1 time	26	8.7	234.77 ± 51.91	
2 times or more	39	13.0	247.67 ± 55.95	
History of psychiatric treatment				0.002*
Yes	78	26.0	238.99 ± 59.75	
No	222	74.0	214.90 ± 48.46	
Violence in childhood				<0.001**
Yes	89	29.7	249.96 ± 56.07	
No	211	70.3	209.01 ± 46.07	
Experiencing physical violence in childhood (n = 89)				0.004*
Yes	64	21.3	260.44 ± 55.47	
No	25	78.7	223.12 ± 49.01	

Note. [a]Mann–Whitney-U, [b]Kruskal–Wallis, mean rank scores are given instead of mean scores. * $p < 0.005$; ** $p < 0.001$. YSQ: Young Schema Questionnaire Short Form-3; SD: standard deviation.

TABLE 2: Sociodemographic, illicit substance use, and psychological characteristics associated with compensation behaviors.

	Individuals under probation		Compensation behaviors	p
	n	%	YCI mean score ± SD or mean rank	
Sociodemographic characteristics				
Age				0.222
18–25	127	42.3	153.74 ± 34.0	
26–35	129	43.0	154.47 ± 28.23	
36+	44	17.7	145.30 ± 31.26	
Level of education				0.43
Primary school	39	13.0	154.56 ± 28.64	
Middle school	119	39.7	155.87 ± 32.60	
High school-associate degree	109	36.3	150.32 ± 30.84	
Undergraduate-graduate	33	11.0	147.94 ± 30.94	
Marital status				0.215
Single	206	68.7	154.18 ± 30.70	
Married	75	25.0	147.63 ± 33.50	
Divorced/separated/widowed	19	6.3	158.47 ± 27.24	
Occupation[b]				0.885
Worker	170	56.7	146.98	
Officer	3	1.0	145.33	
Tradesmen	45	15.0	166.94	
Irregular/casual work	10	3.3	145.85	
Unemployed	29	9.7	150.50	
Self-employment	11	3.7	134.55	
Student	32	10.7	153.50	

TABLE 2: Continued.

	Individuals under probation		Compensation behaviors	p
	n	%	YCI mean score ± SD or mean rank	
Income level				0.565
0–1500 TL	51	17.0	156.73 ± 33.32	
1501–2500 TL	77	25.7	148.18 ± 31.36	
2501–3500 TL	99	33.0	154.49 ± 31.05	
3501–5000 TL	43	14.3	154.05 ± 29.65	
5001 TL above	30	10.0	150.73 ± 31.09	
Characteristics of illicit substance use				
Amount of cigarette use				0.001*
Never	32	10.7	154.19 ± 31.73	
1–10 cigarettes	89	29.7	142.28 ± 29.49	
11–20 cigarettes	152	50.7	157.09 ± 31.11	
21+	27	9.0	161.81 ± 30.24	
Age of illicit substance use initiation				0.011*
18	147	49.0	158.07 ± 29.41	
19–25	113	37.7	149.06 ± 33.07	
26+	40	13.3	144.10 ± 30.01	
Frequency of illicit substance use				0.001*
Never ever	15	5.0	143.80 ± 23.39	
A few days a year	110	36.7	144.95 ± 30.38	
A few days a month and more often	175	58.3	158.53 ± 31.31	
Illicit substance treatment history				0.356
Never	272	90.7	152.02 ± 30.97	
1 time	18	6.0	162.44 ± 31.39	
2 times	10	3.3	157.10 ± 39.26	
Maternal alcohol use				0.010*
A few days a week	7	2.3	156.0 ± 39.09	
A few days a month	13	4.3	155.08 ± 25.45	
A few days a year	39	13.0	137.23 ± 26.36	
Never	241	80.3	155.12 ± 31.51	
Illicit substance use of the father				0.210
Yes	8	2.7	166.50 ± 22.49	
No	292	97.3	152.44 ± 31.43	
Legal characteristics				
Number of probation measure				0.043*
Never	215	71.7	150.64 ± 30.72	
1 time	54	18.0	154.17 ± 30.97	
2 times or more	31	10.3	165.55 ± 33.47	
Number of convictions in prison				0.159
Never	245	81.7	151.21 ± 30.60	
1 time	33	11.0	158.58 ± 35.72	
2 times	22	7.3	162.05 ± 30.60	
Psychological characteristics				
Self-harm				0.292
Never	235	78.3	151.43 ± 30.90	
1 time	26	8.7	154.96 ± 33.43	
2 times or more	39	13.0	159.69 ± 31.94	
History of psychiatric treatment				0.160
Yes	78	26.0	157.1 ± 32.05	
No	222	74.0	151.31 ± 30.94	
Violence in childhood				0.001*
Yes	89	29.7	161.60 ± 30.52	
No	211	70.3	149.11 ± 30.93	
Experiencing physical violence in childhood[a] (n = 89)				0.168
Yes	64	21.3	47.36	
No	25	78.7	38.96	

Note. [a]Mann–Whitney-U, [b]Kruskal–Wallis, mean rank scores are given instead of mean scores. *$p < 0.005$; **$p < 0.001$. YCI: Young Compensation Inventory; SD: standard deviation.

TABLE 3: Sociodemographic, illicit substance use, and psychological characteristics associated with avoidant behaviors.

	Individuals under probation		Avoidant behaviors	
	N	%	YRAI mean score ± SD or mean rank	p
Sociodemographic characteristics				
Age[b]				0.051
18–25	127	42.3	136.90	
26–35	129	43.0	163.33	
36+	44	17.7	152.13	
Level of education				0.233
Primary school	39	13.0	127.41 ± 20.92	
Middle school	119	39.7	125.29 ± 22.51	
High school-associate degree	109	36.3	121.83 ± 23.46	
Undergraduate-graduate	33	11.0	118.33 ± 19.97	
Marital status				0.801
Single	206	68.7	122.96 ± 21.23	
Married	75	25.0	124.92 ± 26.08	
Divorced/separated/widowed	19	6.3	124.37 ± 20.88	
Occupation				0.663
Worker	170	56.7	125.13 ± 22.86	
Officer	3	1.0	127.0 ± 19.00	
Tradesmen	45	15.0	124.62 ± 21.85	
Irregular/casual work	10	3.3	122.0 ± 18.70	
Unemployed	29	9.7	120.9 ± 25.39	
Self-employment	11	3.7	119.45 ± 17.54	
Student	32	10.7	117.53 ± 21.55	
Income level				0.704
0–1500 TL	51	17.0	122.45 ± 24.44	
1501–2500 TL	77	25.7	122.03 ± 22.40	
2501–3500 TL	99	33.0	123.91 ± 20.62	
3501–5000 TL	43	14.3	127.79 ± 26.00	
5001 TL above	30	10.0	121.97 ± 20.06	
Characteristics of illicit substance use				
Amount of cigarette use[b]				<0.001**
Never	32	10.7	123.20	
1–10 cigarettes	89	29.7	122.37	
11–20 cigarettes	152	50.7	161.57	
21+	27	9.0	213.26	
Age of illicit substance use initiation				<0.001**
18	147	49.0	128.79 ± 21.69	
19–25	113	37.7	117.19 ± 22.08	
26+	40	13.3	122.20 ± 21.96	
Frequency of illicit substance use				<0.001**
Never ever	15	5.0	116.20 ± 16.62	
A few days a year	110	36.7	117.16 ± 20.76	
A few days a month and more often	175	58.3	128.18 ± 22.86	
Illicit substance treatment history				<0.001**
Never	272	90.7	121.81 ± 21.88	
1 time	18	6.0	136.61 ± 21.21	
2 times	10	3.3	147.20 ± 20.97	
Maternal alcohol use				0.094
A few days a week	7	2.3	129.43 ± 24.45	
A few days a month	13	4.3	124.62 ± 19.81	
A few days a year	39	13.0	115.28 ± 23.47	
Never	241	80.3	124.65 ± 22.21	
Illicit substance use of the father[a]				0.019*
Yes	8	2.7	141.88 ± 15.28	
No	292	97.3	123.04 ± 22.43	

TABLE 3: Continued.

	Individuals under probation		Avoidant behaviors	p
	N	%	YRAI mean score ± SD or mean rank	
Legal characteristics				
Number of probation measure				0.001*
Never	215	71.7	120.55 ± 21.11	
1 time	54	18.0	129.19 ± 24.42	
2 times or more	31	10.3	134.45 ± 23.45	
Number of convictions in prison				0.185
Never	245	81.7	122.41 ± 21.34	
1 time	33	11.0	128.30 ± 27.83	
2 times	22	7.3	128.95 ± 25.01	
Psychological characteristics				
Self-harm				0.038*
Never	235	78.3	122.20 ± 21.04	
1 time	26	8.7	122.81 ± 30.48	
2 times or more	39	13.0	132.10 ± 23.30	
History of psychiatric treatment				0.034*
Yes	78	26.0	128.17 ± 25.29	
No	222	74.0	121.91 ± 21.20	
Violence in childhood				0.001*
Yes	89	29.7	130.39 ± 23.35	
No	211	70.3	120.65 ± 21.48	
Experiencing physical violence in childhood (n = 89)				0.012*
Yes	64	21.3	134.23 ± 22.76	
No	25	78.7	120.56 ± 22.34	

Note. [a]Mann–Whitney-U, [b]Kruskal–Wallis, mean rank scores are given instead of mean scores. *$p < 0.005$; **$p < 0.001$. YRAI: Young-Rygh Avoidance Inventory; SD: standard deviation.
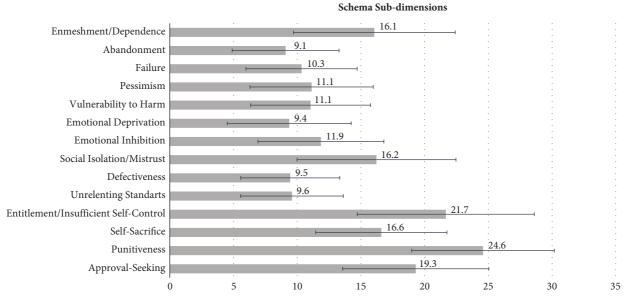

FIGURE 1: Young Schema Questionnaire Short Form-3 subdimension mean scores.

the schema score increases by 12.15 units, $B = 12.15$ (95% CI: 2.04–22.25), $p = 0.019$. When the variable of experiencing violence in childhood increases by one unit, the schema score increases by 29.24 units, $B = 29.24$ (95% CI: 16.92–41.56), $p < 0.001$.

Frequency of illicit substance use and childhood violence was predictive of compensation scores (R^2: 0.083). The constructed model can explain 8.3% of the compensation scores. For each unit increase in the frequency of illicit substance use, the compensation score increases by 7.06
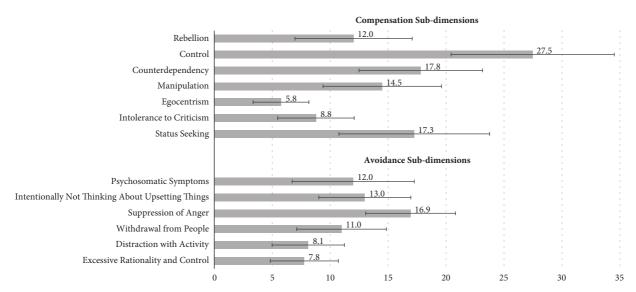
Figure 2: Compensation and avoidance subdimensions' mean scores.

Table 4: Multiple linear regression analysis of predictors of early maladaptive schemas and compensation and avoidant behaviors.

	Model 1 YSQ		Model 2 YCI		Model 3 YRAI	
	B	95% CI	B	95% CI	B	95% CI
Sociodemographic characteristics						
Level of education	−6.02	(−12.66–0.62)				
Characteristics of illicit substance use						
Amount of cigarette use	0.65	(0.04–1.27)*	0.29	(−0.1–0.67)	0.49	(0.22–0.76)*
Age of illicit substance use initiation	−0.39	(−1.42–0.64)	−0.3	(−0.95–0.35)	0.13	(−0.33–0.59)
Frequency of illicit substance use	12.15	(2.04–22.25)*	7.06	(0.58–13.54)*	5.16	(0.67–9.65)*
Illicit substance treatment history	6.98	(−7.47–21.43)			6.74	(0.30–13.17)*
Maternal alcohol use			3.09	(−2.27–8.45)		
Illicit substance use of the father	5.91	(−28.26–40.08)			8.75	(−6.46–23.95)
Legal characteristics						
Number of probation measure	2.99	(−6.30–12.28)	1.78	(−3.88–7.44)	2.98	(−1.10–7.06)
Psychological characteristics						
Self-harm	4.79	(−3.65–13.23)			0.12	(−3.62–3.87)
History of psychiatric treatment	−8.66	(−21.85–4.53)			0.55	(−5.29–6.39)
Violence in childhood	29.24	(16.92–41.56)**	9.18	(1.36–17.00)*	6.02	(0.59–11.45)*
Explanatory and significance levels of the models						
R^2	0.240	0.083	0.169			
Adj. R^2	0.213	0.064	0.143			
P	<0.001**	<0.001**	<0.001**			
Durbin–Watson	1.979	2.104	2.049			

Note. R^2: Coefficient of determination; * $p < 0.05$; ** $p < 0.001$. CI: confidence interval.

units, $B = 7.06$ (95% CI: 0.58–13.54), $p = 0.033$. When the variable of experiencing violence in childhood increases by one unit, the compensation score increases by 9.18 units, $B = 9.18$ (95% CI: 1.36–17.00), $p = 0.022$.

The amount of cigarette use, frequency of illicit substance use, being treated for illicit substance use disorder, and experiencing violence in childhood were significant predictors of avoidance scores (R^2: 0.169). The constructed model can explain 16.9% of the avoidance scores. When the amount of smoking increases by one unit, the avoidance score increases by 0.49 units, $B = 0.49$ (95% CI: 0.22–0.76), $p = 0.001$. When the frequency of illicit substance use increases by one unit, the avoidance score increases by 5.16 units, $B = 5.16$ (95% CI: 0.67–9.65), $p = 0.025$. When the variable of being treated for illicit substance use disorder increases by one unit, the avoidance score increases by 6.74 units, $B = 6.74$ (95% CI: 0.30–13.17), $p = 0.040$. When the variable of experiencing violence in childhood increases by one unit, the avoidance score increases by 6.02 units, $B = 6.02$ (95% CI: 0.59–11.45), $p = 0.030$.

4. Discussion

The key findings of this study, which was conducted in order to determine the early maladaptive schemas of individuals residing in the northern districts of Izmir who are under probation due to illicit substance use and the factors associated with the overcompensation and avoidance behaviors they use to cope with these maladaptive schemas, are as follows: Among the individuals under probation, it was found that those who smoked more cigarettes, used illicit substances more frequently, and experienced violence in childhood had higher schema scores. In addition, it was found that those with high frequency of illicit substance use and those who had experienced violence in childhood had higher compensation scores, while those with high cigarette use, high frequency of illicit substance use, those who had been treated for illicit substance use, and those who had experienced violence in childhood had higher avoidance scores.

In this study, the independent variables that were found to be most correlated with early maladaptive schemas were childhood violence, frequency of illicit substance use, and amount of smoking. Experiencing violence in childhood may cause schema acquisition in early life, while the presence of schemas is associated with the frequency of illicit substance use or the amount of cigarette use. The cross-sectional nature of the current study does not allow for this kind of causal inference. Although adverse childhood experiences seem to be important for the formation of early maladaptive schemas, increased illicit substance use may also be seen in adulthood for either compensation or avoidance. When we look at illicit substance use in terms of cause and effect, the process is complex. While there may be problems directly related to the schema, avoidant or compensation behaviors may also increase illicit substance use.

Childhood maltreatment leads to lifelong deterioration in the physical and mental health of the individual. Exposure to maltreatment in childhood leads to excessive stress and disrupts the early development of the brain [23–25]; [26–28]. This, in turn, poses risks such as being a perpetrator or victim of violence, smoking, alcohol, or illicit substance abuse in adulthood [17]. Adverse events experienced early in life have also been associated with an increased risk of psychopathology along with structural brain changes [28]. Studies showing that adverse childhood experiences or maltreatment in childhood are associated with substance abuse or increased substance use in later life can be found in the literature [29, 30]; [31].

According to Young's schema theory, exposure to maltreatment in childhood is closely related to the development of early maladaptive schemas and psychopathology in adult life. It was observed that the first two of the four early life experiences defined by Young et al. [14], which are thought to accelerate the development of schemas, were prominent in the research group. It is possible that these two early life experiences, which correspond to being maltreated in childhood, may have led to schema formation. In line with the literature, an increase was observed in the total schema scores of those who reported experiencing violence in childhood in our research group. Adverse childhood experiences were found to be associated with early maladaptive schemas [32], and childhood maltreatment was found to be associated with psychopathology in adulthood and substance abuse in particular [6, 33]. In a review, it was reported that those with substance use disorders self-reported more adverse life events in childhood than the general population, and there was a positive association between adverse childhood experiences and the development and severity of substance use disorder [34].

The ability to adapt in the face of adversity is a survival mechanism that has carried humanity from the past to the present. This mechanism may not always translate into health-compatible behaviors. In some cases, coping behaviors that are harmful to health, such as smoking or illicit substance use, may be exhibited [35]. Thus, in our study, early schemas triggered by adverse childhood experiences were found to be associated with high amounts of smoking and illicit substance use. This finding is in line with studies showing that adverse childhood experiences are associated with increased tobacco and cannabis use [29, 36].

Substance use is a frequently used method to cope with distress caused by adverse childhood experiences or triggered by schemas [37, 38]. Although substance misuse is often formulated in the context of avoidance, in our study, overcompensation was found to be associated with childhood violence and increased illicit substance use. Considering the nature of the overcompensation mechanism in relation to violence and aggression, it seems understandable that individuals under probation express their aggression towards themselves or society through substance use or illegal acts. As seen in the subcategories of compensatory behaviors, through various overcompensation mechanisms such as rebellion or counterdependency [39], individuals may be attempting to challenge social norms by using more substances [40].

It was found that in individuals who coped with their schemas resulting from negative childhood experiences through avoidance, an increase in the amount of both smoking and illicit substance use received more substance use disorder treatment. Ball stated that individuals turn to substance use or continue substance use in order to avoid negative feelings and thoughts caused by schemas [37]. Our results are in line with the literature stating that smoking and substance use is a coping strategy [37, 41].

4.1. Strength and Limitations. The strength of the study is that it explains the association of illicit substance use in the probation group within the framework of ST theory. The use of self-reported measure in this study is a limitation. Therefore, it can be said that illicit substance use is often underreported, and a history of childhood violence is a limitation in terms of both underreport and recall bias, as shown in the literature [30, 34]. The participants of our study consisted of individuals under probation in one city. Its generalizability is limited.

The descriptive analyses of our study were conducted on mean schema score and schema subdimensions. However, our analyses on the relationship with independent variables were conducted on mean schema scores. We would like to state that this situation creates a limitation.

5. Conclusion

In conclusion, emotional traces of childhood, such as childhood violence, were observed in the study herein. Early maladaptive schemas shaped by adverse childhood experiences were found to lead to high levels of smoking and increased illicit substance use in adulthood. At the same time, it was found that early schemas formed by negative childhood experiences were compensated by increased illicit substance use. In those who coped with the schemas triggered by childhood violence through avoidance, high amounts of cigarette and illicit substance use were observed, and the frequency of substance use disorder treatment increased accordingly.

In the light of these results, in parallel with the current approaches focused on substance use, which are widely preferred in probation procedures, psychosocial approaches that take into account the traces of individuals' early life periods and include rehabilitation opportunities should be further developed. In the screening and assessment tests used in the probation procedure, the history of childhood maltreatment can be questioned, and different psychotherapy supports can be offered to individuals in need. Probation staff can be trained on childhood violence. Holistic and supportive approaches can be developed to move the probation procedure beyond just monitoring substance use. Considering the serious problems related to addiction in adulthood caused by negative childhood experiences, education and support opportunities should be improved in order to protect not only the probation population but also all segments of society.

Data Availability

(1) Data available on request due to privacy/ethical restrictions. (2) The datasets used and/or analyzed during the current study are available from the corresponding author on request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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