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Experiential avoidance, empathy, and anger-related attitudes in antisocial personality disorder

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Background/aim: In prevailing opinion, a strong relation exists between lack of empathy and antisocial personality disorder (ASPD). However, recent data fail to wholly clarify this relation, especially in consideration of empathy dimensions. In this study our aim was to address ASPD and social functionality from a contextual behavioral science viewpoint.

Materials and methods: The present study was conducted with a sample of 34 individuals with ASPD and 32 healthy individuals as the control group. The participants were assessed with a sociodemographic form, Structured Clinical Interviews for DSM I and II (SCID-I and SCID-II), Social Functioning Scale (SFS), Acceptance and Action Questionnaire-II for measuring experiential avoidance, Interpersonal Reactivity Index for measuring empathy dimensions, and the State-Trait Anger Scale for anger-related attitudes.

Results: Experiential avoidance, dysfunctional anger regulation patterns, and lack of perspective-taking levels were higher in the ASPD group than in the control group. Experiential avoidance and perspective-taking processes were related with social functioning in ASPD.

Conclusion: These findings may provide initial data for understanding ASPD clinical features and related social interaction problems. Further relations between scales and social functionality also analyzed and discussed.

Key words: Anti-social personality disorder, experiential avoidance, empathy, perspective-taking, anger, psychological flexibility

1. Introduction

There are many propositions about the psychopathological background of the behaviors that disrupt interpersonal functions and dominate the clinical appearance of antisocial personality disorder (ASPD). Cleckley (1) asserted that psychopaths have a developmental problem, which he defined as semantic aphasia. He proposed that such individuals cannot understand the meaning of emotional experiences because of an inborn deficiency (semantic) and thus they cannot express this (aphasia). It was also determined that such individuals react less to emotional aspects of sentences and pictures than normal controls do (2). Eysenck and Gudjonsson (3) also proposed that lack of cortical physiological responses is associated with experiencing several feelings especially fear through classical conditioning. Accordingly, some studies determined that the expectation for irritant stimulus causes an increase in the heart rate of normal people while it does not affect psychopaths (4).

The relatively novel scientific approach called contextual behavioral science (CBS) and one of its products, acceptance and commitment therapy (ACT), have a model of psychological health called psychological flexibility (5,6). As a transdiagnostic model, psychological flexibility consists of six interrelated dimensions: acceptance, cognitive defusion, contacting with the present moment, self-as-context, valuing, and committed actions. The other side of these six dimensions pointing to psychopathology defined as psychological inflexibility consists of experiential avoidance, cognitive fusion, dominance of past and future, attachment to the conceptualized self, absence of values, and inactivity/impulsivity/avoidance, respectively (7). Experiential avoidance is the central process that underpins psychological inflexibility and is described as 'the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioral predispositions) and takes steps to alter the form or frequency of these events and the contexts that occasion them' (8). It is a class of behaviors based on negative reinforcement processes and associated with increased risk of wide range of

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psychopathologic conditions (9,10). Recently, a new approach from the CBS and ACT view, called the flexible connectedness model proposes that perspective-taking ability, empathy, and experiential avoidance attitudes play a role in social anhedonia (11) and generalized prejudice (12). As previously mentioned, individuals with antisocial behavioral repertoires have different responses according to controls like hyporesponsiveness (13) and defensiveness to self-report scales (14) when experiencing emotions. From the point of view of the psychological inflexibility model, these emotion-related data could deal with the experiential avoidance process.

A consensus exists on the relation between ASPD and anger (15); however, there is a lack of data on this relation. Lobbestael et al. (16) showed that there is no difference in anger-related emotional responses by self-reporting between their ASPD group and controls. An assessment of anger attitudes in ASPD from the experiential avoidance point of view can make a contribution for understanding emotion and antisocial behaviors better.

In the literature, there are also studies on the relationship between empathy and ASPD (17) and it is suggested that empathy deficiency is one of the main characteristics of psychopathy (18). Furthermore, no comprehensive correlation between empathy and psychopathy could be determined and its concept modeling does not have very clear limits (19). As the difficulty of measuring the concept of empathy and other emotion-focused factors might be related to psychopathy as mentioned above, the importance of discussing ASPD more comprehensively comes up.

Addressing antisocial behaviors from a multidimensional position may contribute to a better understanding of ASPD's clinical features. Thus, the first aim of our study was to assess the levels of experiential avoidance, empathy, and anger-related response patterns in individuals with ASPD in comparison with a control group. Another aim was to assess the relationship between these dimensions and social functionality.

2. Materials and methods

2.1. Participants

The research sample consisted of 34 male individuals with ASPD who presented to İstanbul Bakırköy Mazhar Osman Psychiatry Education and Research Hospital (BRSHH) outpatient clinic and 32 healthy males who did not have any psychiatric complaint. Individuals with comorbid schizophrenia and other psychotic disorders, bipolar I and II disorders, or mental retardation were excluded and who agree to participate in the research voluntarily between the ages of 18 and 65 were included in the research.

2.2. Procedure

Our research was approved through the decision of the BRSHH Ethics Committee dated 01.07.2014, no. 407. The individuals who presented to BRSHH for treatment with antisocial personality features were assessed in face-to-face evaluations by a researcher with SCID-II for clarifying ASPD diagnosis after informed consent was obtained. In addition, SCID-I was used to evaluate research exclusion criteria. Healthy voluntary participants were included in the research as well after SCID-I and II were applied. Following the interview, the filling out of scales used in the research was requested from the participants.

2.3. Measures

2.3.1. Sociodemographic form

It is a study-oriented form that includes questions about the sociodemographic properties and life histories of the participants and is developed by researchers.

2.3.2. Structured clinical interviews for DSM I and II (SCID-I and SCID-II)

SCID was developed according to DSM-III-R criteria and is a widely used tool during the diagnostic interviews of patients. SCID-I is an interview prepared to evaluate axis 1 clinical psychiatric diagnoses (20), whereas the goal of SCID-II is to evaluate the diagnoses of personality disorders (21).

2.3.3. Interpersonal reactivity index (IRI)

IRI was developed to evaluate empathy with four dimensions (22). The validity and reliability study of the Turkish version of IRI was performed by Engeler and Yargıç (23). The scale, consisting of 28 items, is a 5-point Likert type and each item was scored as 0–4 points. IRI comprises four subscales, which are four-dimensional measures: perspective-taking (PT), empathic concern (EC), fantasy scale (FS), and personal distress (PD), and these subscales determine relatively independent and separate individual qualifications. Perspective-taking refers to putting oneself in someone's place, the ability to look from others' perspectives and to accept others' perspectives, and corresponds to the cognitive empathy dimension. The empathic concern subscale assesses "other-oriented" feelings of sympathy and concerns for unfortunate others. The fantasy subscale measures to what extent a person puts himself/herself in place of the imaginary heroes or characters in works such as novels or movies. Personal distress refers to the feelings of anxiety and unease that the person experiences in interpersonal relationships. The fantasy and empathic concern subscales are correlated with emotional empathy (22).

2.3.4. Acceptance and action questionnaire-II (AAQ-II)

AAQ-II is developed to measure the differences in psychological inflexibility by focusing on experiential avoidance (EA) attitudes among individuals (10). AAQ-II is a 7-point Likert type and the participants grade how the expressions in the items match their own by giving 1 (never

true) to 7 (always true) scores. An increase in the scores obtained from the scale shows a decrease in psychological flexibility and thus an increase in EA.

2.3.5. The state-trait anger scale (STAS)

The scale used in the study, developed by Speilberger (24) and translated into Turkish by Özer (25), is a 4-point Likert-type scale and consists of trait anger, anger-in, anger-out, and anger control subscales. High scores from trait anger mean higher levels of anger and high scores from anger control show higher levels of anger control. Likewise, high scores from anger-out show that anger is expressed easily and high scores from anger-in mean suppressed anger.

2.3.6. Social functioning scale (SFS)

SFS was developed by Birchwood et al. (26) and the validity and reliability study of the Turkish version was conducted by Yaprak and Gülseren (27). In order to evaluate social functioning, the scale contains the following subdimensions: social engagement/social withdrawal, interpersonal functioning, prosocial activities, recreation activities, independence, and employment. High total points indicate an increase in functionality. In our research, the social engagement/social withdrawal, interpersonal functioning, and prosocial activities subdimensions of the scale were used.

2.4. Statistical method

The independent samples t-test (conforming to normal distribution) and Mann–Whitney U test (not conforming to normal distribution) were used to evaluate the intergroup differences and the chi-square test was used for categorical variables. $P < 0.05$ showed significant differences. Interdimensional relationships were analyzed through Pearson correlation. SPSS-16 was used during the analyses.

3. Results

3.1. Analysis of sociodemographic data

The ASPD sample was aged 19 to 51 (M = 31.6, SD: 7.7) and the control group was aged 24 to 56 (M = 36.5, SD: 9.7). There was no significant difference between mean ages or educational levels ($\chi^2 = 0.52$, $P = 0.91$). Regarding marital status, a significant difference ($\chi^2 = 14.30$, $P = 0.003$) between the groups was observed. There was also a significantly higher ($\chi^2 = 26.67$, $P < 0.001$) unemployment status in the ASPD group (58.8%) than in the control group (9.4%) (Table 1).

While no difference was detected between the groups regarding alcohol use (ASPD: 70.6%, control: 50.0%, $\chi^2 = 2.927$, $P > 0.08$), smoking (ASPD: 100%, control: 62.5%, $\chi^2 = 15.58$, $P < 0.001$) and psychoactive substance use (ASPD: 91.2%, control: 9.4%, $\chi^2 = 44.16$, $P < 0.001$) were significantly higher in the ASPD group. Suicide attempts (ASPD: 52.9%, control: 3.1%, $\chi^2 = 19.550$, $P < 0.001$) and psychiatric illness rates in family members (ASPD: 32.4%, control: 12.5%, $\chi^2 = 3.70$, $P = 0.05$) were significantly higher in the ASPD group than in the control group (Table 1).

Table 1. Sociodemographic and clinical characteristics of the patients and controls.

	ASPD (n = 34)	Control (n = 32)	χ^2/t	P
Age (mean ± SD)	31.6 ± 7.78	36.56 ± 9.74	2.31	0.24
Marital status (n, %)	3 (8.8)	16(50)	14.302	0.003**
Employment (n, %)	14 (41.2)	29(90.6)	26.672	0.001**
Education years (mean ± SD)	8.64 ± 3.34	9 ± 3.26	0.522	0.91
Alcohol use (n, %)	24 (70.6)	16 (50)	2.927	0.08
Substance use (n, %)	31 (91.2)	3 (9.4)	44.164	0.001**
Smoking (n, %)	34 (100)	20 (62.5)	15.583	0.001**
Family history (n, %)	11 (32.4)	4 (12.5)	3.70	0.05*
Suicide attempt (n, %)	18 (52.9)	1 (3.1)	19.550	0.001**
Family violence (n, %)	20 (58.8)	4 (12.5)	15.287	0.001**
Divorced parents (n, %)	8 (23.5)	5 (15.6)	0.651	0.418
Interparental violence (n, %)	15 (44.1)	8 (25)	2.654	0.10
Migration (n, %)	16 (47.1)	6 (18.8)	5.945	0.01**

χ^2 = Chi-square test, t = Independent samples t-test, (mean ± SD) = Mean ± standard deviation, *P < 0.05, **P < 0.01

Regarding being exposed to family violence, a significantly high difference in the ASPD group (ASPD: 58.8%, control: 12.5%, $\chi^2 = 15.287$, P < 0.001) was detected. However, there was no remarkable difference between the groups regarding interparental violence (ASPD: 44.1%, control: 25.0%, $\chi^2 = 2.65$, P = 0.103) and divorcing of parents during childhood (ASPD: 23.5%, control: 15.6%, $\chi^2 = 0.65$, P = 0.420). We also found a significant difference between the groups with regard to migration, separation, and location change during the developmental period (ASPD: 47.1%, control: 18.8%, $\chi^2 = 5.94$, P = 0.015) (Table 1).

3.2. Anger-related analyses

The ASPD group's total scores for trait anger, anger-out, and anger-in were significantly higher than the control group's scores (P = 0.001, P = 0.001, P = 0.006, respectively). Regarding the total scores for controlled anger, no difference between the ASPD and control groups was found (P = 0.140) (Table 2).

3.3. Psychological flexibility-related analyses

Evaluating the psychological flexibility levels of the ASPD and control groups, the averages of AAQ-II total scores were significantly higher in the ASPD group (P = 0.001) (Table 3).

3.4. Empathy-related analyses

For evaluating empathy levels, the interpersonal reactivity index (IRI) scores of the groups were compared using t-test analyses. In the ASPD group, the perspective-taking (PT) subscale of IRI was lower (P = 0.014) and the fantasy subscale (FS) was higher (P = 0.044) than in the control group. Regarding the empathic concern (EC) and personal distress (PD) subscales, no difference between the groups was found (EC: P = 0.664, PD: P = 0.457) (Table 3).

3.5. Social functionality analyses

Three subscales of the social functioning scale (SFS) were evaluated by t-test analyses. The mean total scores of the interpersonal functioning subscale of SFS did not differ between the groups (P = 0.076). However, the total scores of the social withdrawal subscale in the ASPD group were higher than the control group's scores (P = 0.001, P < 0.0001). The total scores of the prosocial activities subscale were higher in the control group than in the ASPD group (P = 0.004) (Table 3).

3.6. Correlation analyses

While a significant relationship between AAQ-II and SFS prosocial activities and interpersonal functioning subscales was not found in the ASPD group, a significant negative relationship (r = –0.489, P = 0.005) at weak-medium level between AAQ-II and SFS social engagement/social withdrawal subscale was found in the same group (Table 4).

No significant relationship between total AAQ-II scores and the empathic concern (EC) and fantasy subscales (FS) of IRI were found (P > 0.05). On the other hand, total AAQ-II scores had a medium-level positive significant relationship with personal distress (PD) (r = 0.639, P < 0.001) and low–medium-level negative significant relationship with perspective-taking (PT) (r = –0.456, P = 0.008). The relationships between AAQ-II and STAS subscales were medium-level negative significant (controlled anger: r = –0.503, P = 0.003), medium-level positive significant (trait anger: r = 0.535, P = 0.001) and low–medium-level positive significant [(anger-in: r = 0.400, P = 0.021), (anger-out: r = 0.349, P = 0.047)], respectively (Table 4).

Considering the STAS controlled anger subscale, except the above-mentioned significant relationships, it has a low–medium-level positive significant relationship and a medium-level positive significant relationship with SFS social engagement/social withdrawal subscale (r = 0.401, P = 0.019) and PT (r = 0.504, P = 0.002) in the ASPD group (Table 4). Regarding the STAS anger-in subscale, a low-medium-level negative significant relationship (r = –0.365, P = 0.034) with SFS social engagement/social withdrawal subscale and a medium-level positive significant

Table 2. Comparison the STAS scores of ASPD and control groups.

	Mean rank/Mean ± SD ASPD (n = 34)	Mean rank/Mean ± SD Control (n = 32)	MW-U/ t	z	P
STAS					
Trait anger	43.88	22.7	191.00	–4.537	P < 0.001**
Anger-in	39.81	26.8	329.50	–2.763	P = 0.006**
Anger-out	42.34	24.11	243.50	–3.872	P < 0.001**
Anger control	20.59 ± 5.73*	22.63 ± 5.32*	–1.49*		P = 0.140

ASPD = Antisocial personality disorder, STAS = The State-Trait Anger Scale, MW-U = Mann–Whitney U test, *P < 0.05, **P < 0.01, t = Independent samples t-test, Mean ± SD = Mean ± standard deviation

Table 3. Comparison of other scores of ASPD and control groups by independent samples t-test.

	ASPD (n = 34) (mean ± SD)	Control (n = 32) (mean ± SD)	t	P
AAQ-II	28.18 ± 9.38	7.1 ± 7.6	5.225	P < 0.001**
IRI				
PT	5.74 ± 5.82	19.13 ± 5.02	–2.526	P = 0.014**
EC	18.41 ± 5.71	17.81 ± 5.41	0.437	P = 0.664
FS	15.06 ± 5.79	12.38 ± 4.73	2.055	P = 0.044*
PD	14.12 ± 4.92	13.22 ± 4.84	0.748	P = 0.457
SFS				
IP functioning	111.65 ± 18.31	120.28 ± 20.60	–1.802	P = 0.076
Social withdrawal	97.83 ± 11.25	108.47 ± 10.73	–3.981	P < 0.001**
Prosocial activities	106.4559 ± 15.49	117.73 ± 14.37	–3.014	P = 0.003**

ASPD = Antisocial personality disorder, STAS = The State-Trait Anger Scale, AAQ-II = Acceptance and Action Questionnaire-II, IRI = Interpersonal Reactivity Index, PT = Perspective-taking, EC = Empathic concern, FS = Fantasy scale, PD = Personal distress, SFS = Social Functioning Scale, IP = Interpersonal. T = Independent samples t-test, (mean ± SD) = Mean ± standard deviation, *P < 0.05, **P < 0.01

Table 4. Correlations of clinical scales in the ASPD group by Pearson correlation analysis.

	AAQ-II	Anger control	Anger-in	Anger-out	Trait anger	Prosocial activities	Social withdrawal	IP functioning	PD	EC	PT	FS
Anger control	0.001**											
Anger-in	0.024*	0.236										
Anger-out	0.023*	<0.001**	0.050*									
Trait anger	0.001**	0.023*	<0.001**	<0.001**								
Pro-social act.	0.180	0.521	0.666	0.713	0.379							
SW	0.005**	0.018*	0.030*	0.147	0.003**	<0.001**						
IP functioning	0.088	0.093	0.745	0.737	0.063	0.050*	<0.001**					
PD	0.001**	0.101	0.007**	0.075	0.026*	0.977	0.107	0.490				
EC	0.263	0.962	0.051*	0.063	0.149	0.684	0.152	0.605	0.811			
PT	0.003**	0.002**	0.122	0.063	0.003**	0.002**	<0.001**	0.006**	0.985	0.003**		
FS	0.493	0.121	0.903	0.290	0.535	0.764	0.862	0.957	0.286	0.013**	0.298	
Age	0.298	0.500	0.357	0.919	0.864	0.790	0.625	0.786	0.005**	0.573	0.979	0.266

ASPD = Antisocial personality disorder, AAQ-II = Acceptance and Action Questionnaire-II, PT = Perspective-taking, EC = Empathic concern, FS = Fantasy scale, PD = Personal distress, SW = Social withdrawal, IP = Interpersonal. *P < 0.05, **P < 0.01

relationship (r = 0.456, P = 0.007) with IRI PD subscale were observed in the ASPD group (Table 4). The STAS trait anger subscale had negative significant relationships with SFS social engagement/social withdrawal subscale (r = –0.495, P = 0.003), positive significant relationships with IRI PD subscale (r = 0.381, P = 0.026), and negative significant relationships with IRI PT subscale (r = –0.655, P < 0.001) (Table 4).

In addition to the aforementioned relationships of IRI subscales, the PD subscale was determined to have a low–medium-level positive relationship with age (r = 0.473, P = 0.005). Moreover, the PT subscale had a medium-level relationship with the prosocial activities subscale (r = 0.507, P = 0.002) and social engagement/social withdrawal subscale (r = 0.619, P < 0.001) in the ASPD group (Table 4).

4. Discussion

Individuals with an antisocial behavioral repertoire not only have difficulties in coping with negative private experiences, they also face stigmatized attitudes in their community. Understanding the difficulties these individuals struggle with can help us to improve present evidence-based and effective interventions in ASPD. According to our findings, individuals with ASPD have significantly higher rates of being single, unemployment, nicotine and other psychoactive substance use, suicide attempts, being subjected to family violence, migration in childhood, separation during the developmental period, and presence of psychiatric disorders in family members. Considering our research data and the literature, it can be stated that individuals with ASPD experience more physical and emotional (migration, separation, being subjected to violence, etc.) stressors than others, particularly during the developmental period (28). Almost all psychopathological theories accept that emotional stressors experienced during the developmental period form the basis for dysfunctional behavior patterns (not being able to sustain a long-term relationship, psychoactive substance use, suicide, etc.) in adolescence and adulthood. Similarly, our findings verify such stressor effects. From these results we can understand that these individuals have several negative social interactions based on emotional problems during childhood and adolescence. Moreover, these individuals exhibit avoidance-based coping behaviors like substance use and suicide attempts.

Higher STAS trait anger scores in the ASPD group compared to the controls demonstrate that they last longer after the anger feeling emerges. Duration of negative emotions can lead to the individual taking action to reduce them and this may affect the establishment of dysfunctional responses to anger by negative reinforcement. Furthermore, the presence of higher anger-in and anger-out scores in the ASPD group shows higher anger expression or suppression attempts. These results indicate that the presence of anger persistence and anger-related dysfunctional coping behaviors may be helpful for a better understanding of antisocial behaviors.

However, we found no difference between the groups regarding anger-control perception, which is a notable finding. One explanation can be this group's defensiveness, as mentioned previously (14). Another study, conducted by Türkçapar et al. (29), determined that STAS anger control subscale levels were significantly lower in ASPD patients than in healthy control groups, but this difference disappeared in cases of depression. Thus, it can be said that anger-control perception is not a permanent group determinant; it is an attitude, which may be under the control of other parameters. The results of our research also show consistency with the cognitive approach asserting that these individuals have appraisals such as 'I am controlled' (30). This result can also be explained by cognitive fusion attitudes with interpretations of anger-related behaviors. In such cases, behavior is shaped according to related cognitions and rules, instead of contingency shaped (31). Another explanation for this finding can be the realness of their anger control. Nevertheless, it is seen that advanced research should be conducted to clarify such results further.

It was determined that only the anger control subscale of STAS is related to experiential avoidance (EA), assessed with AAQ-II, in the control group. However, we found that all STAS subscales are related to EA in the ASPD group. EA can be seen as the behavioral indicator of the rules (e.g., 'I have to get rid of anger') such as not regarding (accepting) the anger as a normal feeling and the need to reduce or eliminate it. Recent research also found significant negative correlations of EA with anger control dimensions and significant positive correlations of EA with state and trait anger levels in a student sample (32). With these findings it can be proposed that EA can be a central behavioral phenomenon regarding anger-related problems, especially in ASPD.

The significantly lower scores for the perspective-taking (PT) subscale of IRI in the ASPD group indicate that such individuals have weak skills to take perspective by putting themselves in someone else's place. PT also has some similarities with the self-as-context process of acceptance and commitment therapy, emphasizes that the person can be aware of both his/her inner lives (thoughts, emotions, image, dreams, etc.) and instant outer stimulus, situations, and individuals and observe them as they are (7). We need further studies to assess the relation between these two similar processes. Zafirakis (33) also focused on IRI and ASPD relations in young Australian adult samples in three groups, namely high-risk persistently antisocial, low-risk persistently antisocial, and nonantisocial young adults. At the multivariate level, there was a significant difference in the emphatic concern (EC) and PT subscales of IRI between the groups but at the univariate level significance (after Bonferroni adjustment) was only observed for the EC subscale. The difference in significance degrees between our research and Zafirakis' can be explained by the characteristics and sample sizes of the two studies. The mean age of our sample was greater ($M = 31.5$) and sample size was smaller than those of the aforementioned study. Another explanation for the difference between the two studies can be the assessment methods. While in the present study the SCID-II clinician form was used, in the other study groups were formed with self or others' reports. Cultural differences may also explain this difference in total PT scores between the two studies. Finally, further studies are needed to understand the function of PT skills in ASPD.

Higher total scores for the IRI fantasy subscale (FS) in the ASPD group indicate excessive fantasizing attitudes. Fantasizing is usually described in daydreaming literature and determined to be high in individuals who were subjected to physical and sexual abuse during childhood (34). Similar childhood violence was high in the ASPD group in our study. These findings support the association between ASPD and fantasy attitude. Wilson and Barber demonstrated that individuals who are inclined to fantasize avoid loneliness, isolation feelings, and the disturbing environment (35). Additionally, Davis showed the relationship between inclination to fantasy and shyness, social anxiety, and loneliness in male subjects (22). The significantly high EA levels in the ASPD group, another finding of our research, indicate that such individuals are significantly reluctant and unwilling to experience their inner experiences compared to the control group and they try to control their negative inner experiences or avoid them. Taking these data together, it may be stated that individuals with ASPD use fantasizing as one of the cognitive response/avoidance styles to inner negative experiences associated with loneliness, social anxiety, etc.

In our research, no difference between the groups was determined regarding IRI personal distress (PD) and empathic concern (EC) subscales, and this shows that ASPD patients do not have empathy deficiency with all dimensions. In the literature, there are not only studies supporting the relationship between psychopathy and empathy (18,36,37), but also those showing that there is no such relationship (38,39). Such differences between studies may result from different instruments used for assessment of empathy. The heterogeneity of ASPD samples may be another factor in this difference. Nevertheless, it may be specified in line with such data that empathy will not be a global determinant with all of its dimensions in ASPD.

Although EC attitude does not differ among the groups, it is interesting that it has no relationship with EA (measured with AAQ-II) in the ASPD group. Considering the significant relationship of EC with PT in the ASPD group, it may be thought that improving the ability of EC in these individuals can be achieved by focusing on dimensions such as PT rather than experiential avoidance. However, IRI personal distress (PD) dimension is related only to EA in the ASPD group. This indicates that experiential avoidance in such individuals should be focused on in order to handle the anxiety and distress feelings in interpersonal relationships.

As data strengthening our hypothesis, in the ASPD group we found a significant negative correlation between perspective-taking (IRI-PT) and EA (AAQ-II) levels in addition to higher levels of EA. These findings together assert that improving perspective-taking and experiential acceptance (by decreasing EA) can become central therapeutic interventions for antisocial behaviors. Further ACT intervention studies can be organized according to these findings. In addition, considering social functionality, in the ASPD group there is a significance relationship between PT and three dimensions of the social functioning scale (SFS). We also found a significance relationship between lower EA (higher acceptance) and SFS social engagement dimension in the ASPD group. In line with these results, it can be specified that PT and EA may be significant factors for social functionality levels in ASPD. Further research with regression modeling analyses is needed to clarify these results. Our findings are also in accordance with the novel flexible connectedness model (11) of human interaction.

The significant negative correlation of the trait anger subscale with social engagement demonstrates that the duration of anger reduces social functioning. Ruminative response style increases the continuation of anger (40) and interventions decreasing rumination may be useful for such individuals. In addition, the negative relationship of trait anger, personal distress (PD), and PT in ASPD patients suggests that these dimensions should be considered in anger-related interventions. On the other hand, further research should be conducted on causality relationships between the anger and empathy dimensions.

When social functioning of the groups is considered, despite the fact that the interpersonal functionality subscale of SFS does not show a significant difference between the ASPD and control groups, the low rate of leading social activities and the high rate of social engagement in the ASPD group show that a low level of general social functioning is not present. Moreover, individuals with ASPD can exhibit higher functionality to interact with other people than the control group does. However, evaluation of social functioning by self-report method may affect the reliability of the data obtained.

Our research has several limitations. The small sample size may be insufficient to represent the universe. Likewise, further regression analyses of our data could not be performed because of the small sample size (41). Another limitation of our study concerns the measures used. Most of assessment tools used in this research were applied as self-report, and this might influence the objectivity of the data obtained. The diagnostic heterogeneity of our sample may be another limitation. Except for the SCID-II based diagnostic determination of ASPD, severity ratings and ASPD related clinical features such as sociopathy and psychopathy were not assessed separately in our research. In this direction, research with more detailed designs is needed.

5. Conclusion

The present paper reports probably the first research focused on social functioning in ASPD from the contextual behavioral view. Considering the findings of our research, it may be stated that migration and physical abuse during childhood can create a predisposition for the development of ASPD. Moreover, it has been found that individuals with ASPD have considerable anger-related experiential avoidance patterns. Again, higher-level fantasizing attitudes of these individuals can be regarded as another feature of experiential avoidance. The weak ability of perspective-taking observed in ASPD patients is also an important finding of our research. Rather than a general empathy deficiency, the lack of perspective-taking ability and high level of experiential avoidance can be regarded as two important factors concerning the social functioning of ASPD. Accordingly, further research with higher sample size is required for contextual behavioral modeling of ASPD.

References

1. Cleckley HM. The Mask of Sanity: An Attempt to Clarify Some Issues about the So-called Psychopathic Personality. St Louis, MO, USA: C.V. Mosby; 1964.
2. Williamson S, Harpur TJ, Hare RD. Abnormal processing of affective words by psychopaths. Psychophysiology 1991; 28: 260-273.
3. Eysenck HJ, Gudjonsson GH. The Causes and Cures of Criminality. New York, NY, USA: Plenum; 1989.
4. Hare RD. Electrodermal and cardiovascular correlates of psychopathy. In: Hare RD, Schalling D, editors. Psychopathic Behavior: Approaches to Research. New York, NY, USA: Wiley; 1978. pp. 107-143.
5. Hayes SC, Strosahl KD, Wilson KG. Acceptance and Commitment Therapy: The Process and Practice of Mindful Change. 2nd ed. New York, NY, USA: The Guilford Press; 2012.
6. Hayes SC, Pistorello J, Levin ME. Acceptance and commitment therapy as a unified model of behavior change. Couns Psychol 2012; 40: 976-1002.
7. Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. Acceptance and commitment therapy: model, processes and outcomes. Behav Res Ther 2006; 44: 1-25.
8. Hayes SC, Wilson KG, Gifford EV, Follette VM, Strosahl K. Experiential avoidance and behavioral disorders: a functional dimensional approach to diagnosis and treatment. J Consult Clin Psych 1996; 64: 1152-1168.
9. Hayes SC, Gifford EV. The trouble with language: experiential avoidance, rules, and the nature of verbal events. Psychol Sci 1997; 8: 170-173.
10. Bond FW, Hayes SC, Baer RA, Carpenter KM, Guenole N, Orcutt HK, Waltz T, Zettle RD. Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: a revised measure of psychological inflexibility and experiential avoidance. Behav Ther 2011; 42: 676-688.
11. Vilardaga R, Estévez A, Levin ME, Hayes SC. Deictic relational responding, empathy and experiential avoidance as predictors of social anhedonia: further contributions from relational frame theory. Psychol Rec 2012; 62: 409-432.
12. Levin ME, Luoma JB, Vilardaga R, Lillis J, Nobles R, Hayes SC. Examining the role of psychological inflexibility, perspective taking, and empathic concern in generalized prejudice. J Appl Soc Psychol 2015; 46: 180-191.
13. Herpertz SC, Werth U, Lukas G, Qunaibi M, Schuerkens A, Kunert H, Freese R, Flesch M, Mueller-Isberner A, Osterheider M et al. Emotion in criminal offenders with psychopathy and borderline personality disorder. Arch Gen Psychiat 2001; 58: 737-745.
14. de Ruiter C, Greeven PG. Personality disorders in a Dutch forensic psychiatric sample: convergence of interview and self-report measures. J Pers Disord 2000; 14: 162-170.
15. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders: DSM-IV 4th ed., Text Revision. Washington (DC), USA: American Psychiatric Association; 2000.
16. Lobbestael J, Arntz A, Cima M, Chakhssi F. Effects of induced anger in patients with antisocial personality disorder. Psychol Med 2009; 39: 557-568.
17. Hare RD. Psychopathy: a clinical construct whose time has come. Crim Justice Behav 1996; 23: 25-54.
18. Harpur TJ, Hakstian AR, Hare RD. Factor structure of the Psychopathy Checklist. J Consult Clin Psychol 1988; 56: 741-747.
19. Eisenberg N, Miller PA. The relation of empathy to prosocial and related behaviors. Psychol Bull 1987; 101: 91-119.
20. Spitzer RL, Williams JB, Gibbon M, First MB. Structured Clinical Interview for DSM-III-R, Patient Edition/Non-patient Edition, (SCID-P/SCID-NP). Washington, DC, USA: American Psychiatric Press; 1990.
21. Spitzer RL, Williams JB, Gibbon M, First MB. Structured Clinician Interview for DSM-III-R axis II disorders, (SCID-II). Washington, DC, USA: American Psychiatric Press; 1990.
22. Davis MH. Measuring individual differences in empathy: evidence for a multidimensional approach. J Pers Soc Psychol 1983; 44: 113-126.
23. Engeler A, Yargıç I. Interpersonal reactivity index: measurement of empathy multidimensionally. New Symposium 2007; 45: 119-127.

24. Spielberger CD. State-Trait Anger Expression Inventory. Orlando, FL, USA: Psychological Assessment Resources; 1988.

25. Özer AK. Prestudy of the state-trait anger scale and the anger expression scale. Turk Psikol Dergisi 1994; 9: 26-35 (article in Turkish with an abstract in English).

26. Birchwood M, Smith J, Cochrane R, Wetton S, Copestake S. The Social Functioning Scale. The development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. Brit J Psychiat 1990; 157: 853-859.

27. Yaprak ES, Gülseren Ş. Social Functioning Scale in patients with schizophrenia is to investigate the validity and reliability of the Turkish form (Poster in Turkish). In: Proceedings of the 6th Spring Symposium; 2002; Antalya. pp. 134-135.

28. Bernstein DP, Stein JA, Handelsman L. Predicting personality pathology among adult patients with substance use disorders: effects of childhood maltreatment. Addict Behav 1998; 23: 855-868.

29. Türkçapar H, Güriz O, Özel A, Işık B, Dönbak Örsel S. Relationship between depression and anger in patients with antisocial personality disorder. Turkish Journal of Psychiatry 2004; 15: 119-124 (article in Turkish with an abstract in English).

30. Seeler L, Freeman A, DiGiuseppe R, Mitchell D. Traditional cognitive-behavioral models for antisocial patterns. In: Tafrate R, Mitchell D, editors. Forensic CBT: A Handbook for Clinical Practice. Chichester, West Sussex, UK: Wiley; 2004. pp. 15-42.

31. Hayes SC, Brownstein AJ, Zettle RD, Rosenfarb I, Korn Z. Rule-governed behavior and sensitivity to changing consequences of responding. J Exp Anal Behav 1986; 45: 237-256.

32. Chien S. Understanding anger through the framework of experiential avoidance. PhD, The Chicago School of Professional Psychology, Chicago, USA, 2015.

33. Zafirakis E. Examining empathy and perspective taking among high-risk and low-risk persistently antisocial and non antisocial young adults. The International Journal of Interdisciplinary Social Sciences 2009; 4: 193-204.

34. Rhue JW, Lynn SJ, Henry S, Buhk K, Boyd P. Child abuse, imagination and hypnotizability. Imagination, Cognition and Personality 1990; 10: 53-63.

35. Wilson SC, Barber TX. Vivid fantasy and hallucinatory abilities in the life histories of excellent hypnotic subjects ("somnambulers"): Preliminary report with female subjects. In: Klinger E, editor. Imagery: Vol. 2. Concepts, Results, and Applications. New York, NY, USA: Plenum; 1981. pp. 133-149.

36. Sandoval AM, Hancock D, Poythress N, Edens JF, Lilienfeld S. Construct validity of the Psychopathic Personality Inventory in a correctional sample. J Pers Assess 2000; 74: 262-281.

37. Widiger TA, Cadoret R, Hare R, Robins L, Rutherford M, Zanarini M, Alterman A, Apple M, Corbitt E, Forth A et al. DSM-IV antisocial personality disorder field trial. J Abnorm Psychol 1996; 105: 3-16.

38. Book AS, Quinsey VL. Psychopaths: cheaters or warrior-hawks? Pers Indiv Differ 2004; 361: 33-45.

39. Williams KM, Paulhus DL. Factor structure of the Self-Report Psychopathy scale (SRP-II) in non-forensic samples. Pers Indiv Differ 2004; 37: 765-778.

40. Bushman BJ. Does venting anger feed or extinguish the flame? Catharsis, rumination, distraction, anger, and aggressive responding. Pers Soc Psychol B 2002; 28: 724-731.

41. Stevens J. Applied Multivariate Statistics for the Social Sciences. 3rd ed. Mahwah, NJ, USA: Lawrence Erlbaum; 1996.