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The Relationship between Impulsivity and Time Perspective in Adolescents

Research Article

Yasin DEMIR[1]

[1]*Firat University, Faculty of Education, Department of Guidance and Counseling, Elazig, Turkey*, ORCID: 0000-0002-2456-1449

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ABSTRACT

The aim of this study is to investigate the relationship between impulsivity and time perspective in adolescents. This study was carried out with the participation of 246 adolescents. In this research, Short Form of Barratt Impulsivity Scale Turkish Form (BIS-11-SF), Zimbardo Time Perspective Inventory Turkish Form (ZTPI) and Personal Information Form prepared by the researcher were used as data collection tools. SPSS package program was used for data analysis. The data were analyzed with Pearson Correlation Analysis, t-test, and ANOVA. According to the research findings, the impulsivity of girls is higher than boys. Girls' perceptions of past negative experiences are higher than boys'. The impulsivity of the participants did not differ significantly according to the number of social media accounts they have. Impulsivity levels were significantly higher in participants who used social media every day than those who used social media a few times in a month. There are significant relationships between impulsivity and time perspective dimensions. Impulsivity is positively related to past negative experiences, present fatalism, and present hedonism.

Keywords:
Impulsivity, Time perspective, Impulsivity in adolescents

Introduction

Adolescence is a period of developmental transition between childhood and adulthood, with many cognitive, physical, social and psychological changes (Kulaksızoğlu, 2006). Adolescence begins with physiological changes associated with the onset of adolescence between the ages of 9 and 12 years. The end of adolescence, which varies according to cultures, occurs when adolescents assume the social roles and responsibilities of adults (Crone & Dahl, 2012). Adolescence is a developmental period characterized by increased impulsivity (Steinberg, 2008). Impulsivity is a key concept for the psychopathological situation, especially among adolescents. In fact, some of the problematic behaviors that appear in adolescence are related to impulsivity levels (D'acremont & Van-der-Linden, 2005). For example, using physical violence, smoking

[1]Corresponding author's address: Firat University Faculty of Education
Telephone: +904242370000- 4891
e-mail: yasinpdr@hotmail.com
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(Öner et al., 2013), and addiction (MacKillop et al., 2011; Park et al., 2013) are some of these problematic behaviors.

Impulse is a dynamic process that is defined by its four basic elements as its source, object, impulse and purpose. The source is a bodily stimulation (a state of stress); its purpose is to eliminate the state of stress that dominates the impulsive source; the impulse can achieve its purpose in the object or through the object. Impulse is an economic quantitative factor, in other words, the motion, intensity, and compulsion at the origin of impulsive dynamics. The source of the impulse can be defined as this somatic process in one part of body. It is not known whether this process is in chemical nature or at the same time corresponds to the dissolution of other forces, for example mechanical forces. Therefore, the purpose of the impulse is to reduce the tension and provide impulsive satisfaction. In short, the impulse is organized for a purpose. The object is what the impulse can achieve its purpose through (Zabcı, 2011). Impulsivity is defined in the literature in different ways. Impulsivity is defined as the reaction of the organism against the stimulus as it comes from inside without any thinking or planning (Moeller, Barratt, Dougherty, Schmitz & Swann, 2001). In other words, impulsivity is the tendency to act quickly without considering the consequences of behaviors (Carver, 2005). Impulsivity is generally defined as a tendency to respond to internal or external stimuli, without having to make the necessary evaluations or not considering what type of effects it may have either on themselves or on other people (Köroğlu, 2014). Impulsivity is expressed as a tendency to respond in a quick and unplanned way towards internal or external stimuli, without considering the negative consequences for themselves and for others (Moeller et al., 2001). Impulsivity, described as a predisposition, is primarily a part of a behavior pattern, rather than a singular behavior. Also, impulsivity includes unplanned actions that occur after its consequences were measured in a quick and unconscious way. This feature of impulsivity distinguishes it from impaired reasoning or compulsive behaviors, which includes not making pre-behavioral plans. Finally, impulsivity involves behaviors expressed without evaluating the results of actions and their risks that are often associated with seeking excitement (Ergin, 2018). Impulsivity is a multidimensional structure that involves weak inhibition of motor responses, a relatively strong preference for immediate rewarding through long-term awards, greater participation in risky behaviors and aggression (Dalley, Everitt, & Robbins, 2011). Impulsivity reflects behavioral patterns such as behaving in a impatient and careless manner, being in a search of excitement and pleasure, exhibiting behaviors having risks, and ignoring the possibility that a negative result may arise or the person him/her-self will be harmed as a result of the behavior. The person does not make sufficient assessment about whether his/her behavior may have negative consequences both for him/her-self and for other people. While impulsivity is a concept that should be considered as an action, it is also one of the main symptoms of many psychiatric problems (Yıldırım, 2010).

It is stated that the concept of time perception or time perspective is something that should be learned since it is a skill developed by an individual's innate abilities such as language-speech and social interaction with his/her environment (Andretta, Worrell, & Mello, 2014). The time perspective is expressed as a tendency to concentrate on the past, present or future as a relative temporal perspective that motivates the individual's typical actions and goals (Henson, Carey, & Maisto, 2006). Although it is stated in the literature that time perspective (time perception) starts in early ages (Safran & Şimşek, 2009). The perception of time concept in an individual starts first in childhood and is completed in adolescence years. According to the psychoanalytic approach, time as a part of ego development, is called the ability of the child to postpone his/her pleasure. The time perception in the infancy consists of moments, so the events have no connection with each other. As the child grows, memory develops and he establishes the relationship between events. In the cognitive approach, Piaget says that the child lives in a world in which he is not aware of the time concept so later on it will develop in stages. It is stated that in the first childhood years, for the child lives at the moment and the time is composed of all the moments experienced but he/she will be able to distinguish between past, present and future after

the age of five (Passig, 2005). Furthermore, the time perspective also is defined as an intense attitude towards present, past, and the future (Mello et al., 2009).

The development of time perspective is a process related to the increase of comprehension skills and the sense of connection between events. Time perspective is a personal qualification based on thinking, long-term planning, identification output outcomes, and interim decision-making skills (Ferrari, Nota, & Soresi, 2010). In the literature it is seen that there are many studies conducted on time perspective. Some of those studies are on the relationship between time and health (Hamilton, Kives, Micevski, & Grace, 2003; Préau, Apostolidis, Francois, Raffi, & Spire, 2007), time perspective and drug addiction (Kirby & Petry, 2004), time perspective and life satisfaction (Drake et al., 2008), future time and romantic relationships (Öner-Özkan, 2004), future perspectives and self (İmamoğlu & Güler, 2007). Adolescents' positive perspectives about the future are reported to have an impact on shaping their adulthood lives. Adolescents self-perceptions are shaped in the same way they perceive their future (Şimşek, 2012). In this context, adolescents' awareness of their time perceptions, in other words, adolescents' awareness about their own time perspectives, is considered to be significant. In addition, as the cognitive, neural, hormonal and social factors play an important role in adolescence, the impulsive behaviors can be experienced intensively in this period. Also, adolescence is a period in which individuals take important decisions and responsibilities for themselves (Tagay & Baltacı, 2017). Adolescents' decision-making skills still continue to develop during adolescence period and this situation is thought to contribute to their daily lives (Boyer, 2006). The time perspective, which expresses the individual's perspective towards the present, the past and the future, is an important subject for examining the adolescent's academic skills (Mello & Worrell, 2006). Considering that rapid decision-making behaviors are frequently seen in adolescents without making plans and without bearing in mind the consequences, it can be said that this study results will be useful. When the literature is examined, no study examining the concepts of impulsivity and time perspective in adolescents was found. For this reason, it is important to understand the relationship between the impulsive tendencies frequently seen in adolescence and the concept of time perspective. In this respect, it is assumed that this study will guide and contribute to the field and its practitioners.

Method

This study was conducted within the framework of quantitative research paradigms. In the research, relational survey model was used (Karasar, 2015). The study data were collected through the forms that were applied to the students in formal high schools after written permission for the application has been taken. The aim of this study is to investigate the relationship between impulsivity and time perspective. In addition, these factors were examined in terms of various variables.

Participants

The participants of the study consisted of adolescents attending high schools in the city center of Elazığ (Turkey) in the 2018-2019 academic year. The participants consisted of 246 adolescents, 154 of them are girls (62.6%) and 92 of them are boys (37.4%). 113 of the participants were in the first year of high school, 79 of them were in the second and 54 of them were in the third year. While 29 of the students (11.8%) stated that they do not have any social media accounts, 79 students (32.1%) have one, 69 students (28.0%) have two, 40 students (16.2%) have three, 29 students (11.8%) have 4 or more account.

Materials

Barratt Impulsivity Scale (BIS-SF) *Turkish Form*: The validity and reliability of study were conducted by Stanford et al. (2009) and it was adapted by Tamam, Gulec and Karatas (2013) into Turkish. The scale consists of 15 items. The scores that can be obtained in the scale having a 4-point rating vary between 15-60. Higher scores indicate higher impulsivity. In terms of validity, exploratory factor analysis was conducted and the

scale was found to be consistent with the original scale. Within the scope of reliability, Cronbach's alpha value was calculated and it was found to be .82 for the whole scale. These findings show that the scale adapted to Turkish is a valid and reliable measurement tool.

Zimbardo Time Perspective Inventory (ZTPI) Turkish Form: The scale developed by Zhang, Howell and Bowerman (2013), and was adapted into Turkish by Akın, Ertürk, Yalnız, Akın and Demirci (2015). The scale consists of 15 items and is a 5-point Likert type. The scale consists of 5 factors and the total score cannot be obtained. The dimensions of the scale were named as "Past Positive, Past Negative, Present Hedonism, Present Fatalism and Future". Each dimension is represented by 3 items. In terms of validity, Confirmatory Factor Analysis (CFA) was performed and the scale's conformity index values were found to be good ($x^2/sd = 1.753$, RMSEA = .067, SRMR = .072, CFI = .90, IFI = .90, GFI = .90). Cronbach alpha values of the scale were calculated as .82, .69, .57, .76, .42 respectively. These results show that the scale is a valid and reliable measurement tool.

Personal Information Form: The form which prepared by a researcher includes questions about the participants' gender and age, the number of social media accounts they have, the grade they are studying, and the frequency of their social media usage.

Procedure: After the implementation, forms were collected from the students and the data were transferred to SPSS package program. Then, it was examined whether the data reflected normal distribution characteristics or not. In this context, the values of Impulsivity, Past Positive, Past Negative, Present Hedonism, Present Fatalism and Future's Skewness and Kurtosis were examined. Skewness values were between -.517 and .676 and Kurtosis values were observed to vary between -.665 and .327 (See Table 4). According to these results, it can be said that the data reflects normal distribution. Since the data showed normal distribution characteristics, parametric tests were used. In this context, data were analyzed by *t*-test, ANOVA and Pearson Correlation Analysis.

Results

Independent samples *t*-test was conducted to examine the impulsivity and time perspectives of the participants in terms of gender and the results are given in Table 1.

Table 1. *t*-test Results Regarding the Students' Scores of Impulsivity and Time Perspective according to Gender

Variables	Gender	n	$\bar{x}$	Sd.	*t*	p
Impulsivity	Female	154	30.47	6.39	2.157	.032*
	Male	92	28.70	6.03		
TP-Past Negatives	Female	154	10.55	2.96	2.275	.024*
	Male	92	9.67	2.94		
TP-Past Positives	Female	154	11.74	2.75	.958	.339
	Male	92	11.41	2.98		
TP-Present Fatalism	Female	154	8.96	2.86	.768	.443
	Male	92	8.67	2.79		
TP-Present Hedonism	Female	154	10.44	2.75	-.561	.575
	Male	92	10.64	2.62		
TP - Future	Female	154	9.84	2.87	-.397	.692
	Male	92	9.99	2.94		

*$p<0.05$

When Table 1 was examined, it was found that girls' impulsivity scores ($p< .05$) and perception scores of past negative experiences ($p <.05$) were significantly higher than these of the boys. In other words, it can be

said that female students are more impulsive than male students and girls' negative experience scores are higher than these of the boys.

In addition, there was no statistically significant difference in time perspective in terms of past positive experiences, present fatalism, present hedonism and future sub-dimensions according to gender.

ANOVA test was conducted to determine whether the impulsivity and time perspectives of the participants differ according to the number of social media accounts and the findings are given in Table 2.

Table 2. ANOVA Results Regarding the Students' Mean Scores of Impulsivity and Time Perspective according to the Number of Social Media Accounts (NSMA).

	NSMA	n	$\bar{x}$	Sd.	F	p	Scheffe
Impulsivity	0	29	29.48	7.07	.978	.420	-
	1	79	29.66	6.19			
	2	69	29.22	6.12			
	3	40	29.85	5.94			
	4 and above	29	31.90	6.72			
	Total	246	29.81	6.30			
TP-Past Negatives	0	29	10.48	2.85	.397	.811	-
	1	79	10.35	2.86			
	2	69	9.88	2.73			
	3	40	10.48	3.30			
	4 and above	29	10.10	3.58			
	Total	246	10.23	2.98			
TP-Past Positives	0	29	11.24	2.52	.1.458	.216	-
	1	79	11.44	3.03			
	2	69	11.38	2.24			
	3	40	12.03	2.49			
	4 and above	29	12.48	2.16			
	Total	246	11.62	2.59			
TP-Present Fatalism	0	29	9.55	2.54	1.068	.373	-
	1	79	8.96	2.91			
	2	69	8.94	2.74			
	3	40	8.45	2.75			
	4 and above	29	8.21	3.19			
	Total	246	8.85	2.83			
TP-Present Hedonism	0	29	9.28	2.75	3.549	.008**	0<4
	1	79	10.39	2.92			
	2	69	10.54	2.42			
	3	40	10.65	2.42			
	4 and above	29	11.86	2.50			
	Total	246	10.52	2.70			
TP-Future	0	29	9.90	2.83	.886	.473	-
	1	79	10.37	2.96			
	2	69	9.72	2.94			
	3	40	9.45	2.36			
	4 and above	29	9.62	3.31			
	Total	246	9.89	2.89			

**p <.01

When Table 2 is examined, it can be seen that the impulsivity, past negative experiences, past positive experiences, present fatalism and future score averages of adolescents do not differ significantly according to the number of social media accounts they have. In the present hedonism dimension of time perspective perception, significant differentiationwas determinedaccording to the number of social media accounts the students had (F = 3.549, p< .01). According to the results of Scheffe test which is applied to identify the source of the difference, it was found that adolescents with social media accounts of 4 and over had significantly higher present hedonistic scores than adolescents who do not have any social media account.

ANOVA test was conducted to determine whether the impulsivity and time perspectives of the participants differ according to the frequency of social media usage and the findings are given in Table 3.

Table 3. ANOVA Results Regarding the Students' Mean Scores of Impulsivity and Time Perspective according to Social Media Usage Frequency (SMUF)

	SMUF	**n**	**$\bar{x}$**	**Sd.**	**F**	**p**	**Scheffe**
Impulsivity	(1)Every day	168	30.57	6.40	4.595	.011*	3<1
	(2)A few times in a week	53	28.70	5.44			
	(3)A few times in a month	25	27.04	6.48			
	Total	246	29.81	6.30			
TP-Past Negatives	(1)Every day	168	10.43	3.03	1.896	.152	-
	(2)A few times in a week	53	9.53	2.97			
	(3)A few times in a month	25	10.32	2.44			
	Total	246	10.23	2.98			
TP-Past Positives	(1)Every day	168	11.64	2.65	.264	.768	-
	(2)A few times in a week	53	11.43	2.66			
	(3)A few times in a month	25	11.88	2.03			
	Total	246	11.62	2.59			
TP-Present Fatalism	(1)Every day	168	8.84	2.78	.818	.443	-
	(2)A few times in a week	53	8.60	3.06			
	(3)A few times in a month	25	9.48	2.69			
	Total	246	8.85	2.83			
TP-Present Hedonism	(1)Every day	168	10.98	2.54	8.829	.000**	2,3<1
	(2)A few times in a week	53	9.70	2.77			
	(3)A few times in a month	25	9.12	2.79			
	Total	246	10.52	2.70			
TP-Future	(1)Every day	168	9.74	2.86	1.572	.210	-
	(2)A few times in a week	53	9.92	2.74			
	(3)A few times in a month	25	10.84	3.34			
	Total	246	9.89	2.89			

**p <.01. *p <.05

When Table 3 is analyzed, it is seen that adolescents' past negative experiences, past positive experiences, present fatalism and future mean scores do not differ significantly according to the frequency of their social media usage. The impulsivity (F = 5.559, p<.05) and present hedonism dimension of time perspective perception of the participants differentiate significantly according to the frequency of social media usage (F = 8.829, p< .01). According to the results of the Scheffe test which is conducted to determine the source of the difference, it was found that adolescents using social media every day had higher impulsivity scores than adolescents using social media a few times in a month. In addition, it was found that the present

hedonism scores of adolescents who use social media every day are significantly higher than adolescents who use social media a few times in a week or a month.

Pearson Correlation analysis was conducted to examine the relationships between the impulsivity and participants' time perspective and the results are given in Table 4.

Table 4. Descriptive Statistics and Correlations of the Variables

	1	**2**	**3**	**4**	**5**	**6**
(1)Impulsivity	1					
(2)TP-Past Negatives	.148*	1				
(3)TP-Past Positives	-.245**	.259**	1			
(4)TP-Present Fatalism	.176**	.269**	-.022	1		
(5)TP-Present Hedonism	.227**	.167**	.152*	.119	1	
(6)TP-Future	-.382**	.078	.305**	-.087	.079	1
Mean	29.81	10.23	11.62	8.85	10.52	9.89
Sd	6.30	2.98	2.59	2.83	2.70	2.89
Skewness	.676	-.256	-.517	.243	-.294	-.225
Kurtosis	.327	-.665	-.335	-.352	-.264	-.508

**p<.01. *p<.05

Table 4 shows that there is a negative correlation between impulsivity and past positive experiences (r = -.245, p<0.05) and also future dimension of time perspective (r = -.382, p<0.01). In addition, it has been determined that there was a significantly positive relationship between impulsivity and past negative experiences (r = .148, p<0.05), present fatalism (r = .176, p<0.01), and present hedonism scores (r = .227, p<0.01).

According to this result, it can be said that adolescents with high impulsivity levels have low perception levels of past positive experience and low expectation levels of the future. In other words, adolescents with low impulsivity levels have high perception levels of past positive experience and high future expectation levels.

Furthermore, adolescents with high impulsivity levels have low past negative experiences perception levels, low present fatalism levels and low present hedonism scores. In other words, adolescents with low level of impulsivity have low perception levels for past negative experience, the present fatalism, and present hedonism.

Discussion

The aim of this study is to investigate the relationship between impulsivity and time perspective in adolescents and to determine how the relationships between these two concepts differ. According to the study findings, it was found that impulsivity and the past experience perception levels of the girls were significantly higher than these of boys. When the research findings in the literature are examined, it can be inferred that impulsivity does not differ significantly according to gender. In the study conducted by D'acremont and Van der Linden (2005) on adolescents, it was found that the impulsivity tendency did not differ according to gender. In addition; according to the study conclusions made by Gökçe, Yusufoğlu, Akın and Ayaz (2017) with adolescents who are diagnosed with attention-deficit / hyperactivity disorder, there cannot be found any significant difference between impulsivity tendency according to gender. In another study, women have more instability than men because of the estrogen hormone they have (Topkara, 2007). Also, in a second study, it is inferred that hormonal changes in adolescence cause difficulties in behavioral adjustment. In this context, it is emphasized that adolescence is an important phrase in which both physical and mental changes are experienced intensively so it is not much easy to adapt to such changes (Çelik, Tahiroğlu, & Avcı, 2008).

According to these study findings, it can be said that the gender is not a significant variable for the difference between impulsive tendencies.

In the research finding, it was determined that past negative experience levels of the girls were higher than these of the boys. However, there was no statistically significant difference in adolescents' perception of time perspective in positive past experiences, present-day fatalism, present-time hedonism and future sub-dimensions in terms of gender. When the literature is examined, it is observed that different results for time perspective dimensions has been found based on gender variable. In one study, males were found to be more focused on the future than females (Trommsdorff, 1983). In another study, there was found to be no significant difference between time perspective according to the gender (McCabe & Barnett, 2000), and the higher-achievement adolescent girls are more goal-oriented than their female or male friends. Although the research findings are not supported by the literature, it is consistent in itself. In the study, it was concluded that impulsivity tendencies of female adolescents were higher than male adolescents. In this context, it is natural for girls with high impulsive tendencies to focus more on past negative experiences than boys.

In this study, it was determined that impulsivity, past negative experiences, past positive experiences, present fatalism and future score averages did not differ significantly according to the number of social media accounts the individuals had. However, it was found that adolescents with social media accounts of 4 and above had a significantly higher present hedonistic tendency than the adolescents with no social media account. It could not reached a researh directly related to this reseach in the literature, different research findings have been reached out. Self-control turns out to be an important factor in social media environments. It is emphasized that individuals who have difficulty in self-control tend to use social media extensively (Şahin & Kumcağız, 2017; Wu et al., 2013). Similarly, in a study conducted by Savcı and Aysan (2016) with university students, it was found that impulsivity tendency positively affected the use of social media. In a different study, it is stated that individuals with high expectations for the future will have high self-efficacy and individuals with high self-efficacy can be protected from impulsive tendencies (Shafikhani, Bagherian, & Shokri, 2018).

In another finding in the study, it was found that there is a negative relationship between impulsivity and past positive experiences and future dimension of time perspective. In other words, it can be said that adolescents with high impulsivity levels have low perception levels of past positive experiences and low expectation levels of the future. On the other hand, adolescents with low impulsivity levels have high perception levels of past experiences and high expectation levels of the future. No study findings on this research could be found. However, in a study, it was found that individuals with a high tendency to focus on past negative experiences are more prone to get high scores on neuroticism. Continuing to focus on negative experiences in the past affects the development of the individual negatively and it is stated that individuals with a cognitively negative time perspective are more likely to have serious personality problems (Van Beek, Berghuis, Kerkhof, & Beekman, 2011).

Based on the study findings, it is recommended to conduct qualitative studies in order to understand the impulsive tendencies and differences in time perspective in adolescents. And also, it is suggested to conduct psychoeducational programs in order to decrease the actions affecting impulsive tendencies and the time perspective negatively. Finally, it is considered that conducting the researches that are examining the relations between impulsivity and time perspective in different working groups will also contribute to the direction and dimension of their relations.

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