

## Examining Human Value Development of Children with Different Habits of Internet Usage

### Farklı İnternet Kullanım Alışkanlığına Sahip Çocukların İnsani Değerler Gelişimlerinin İncelenmesi

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**ABSTRACT:** The Internet, which has become a part of social life, is likely to lead to negative effects on especially children's development of moral and human values due to its interactive features. The purpose of this study was to examine the development of human values in children with different Internet usage habits. In this respect, the study was carried out with on 521 primary school students attending 6th, 7th and 8th classes. In data analysis, first of all, cluster analysis was conducted in order to determine the categories for the pupils who had similar characteristics in terms of their Internet usage habits. Then, in order to examine each cluster, crosstabs, means, percentages and frequencies were calculated. In addition, to find out whether the cluster means differed significantly with respect to the human values, one way-ANOVA was applied. The results revealed that the children were categorized in four clusters in terms of their average Internet usage time in a day, frequency of online surfing, online learning, online game playing and online surfing. In addition, with respect to human values in general and such values as responsibility, respect and being peaceful, a significant difference was found between the cluster of children using the Internet most and the cluster using it least.

**Keywords:** internet usage, human values, child development, cluster analysis

**ÖZ:** Sosyal yaşamın bir parçası haline gelen İnternet, sahip olduğu etkileşim özelliğiyle çocukların ahlaki ve insani değer gelişimleri üzerinde olumsuz etkilere neden olabilmektedir. Araştırmanın amacı, farklı İnternet kullanım alışkanlığına sahip çocukların sorumluluk, arkadaşlık, barışçıl olma, saygı, doğruluk ve hoşgörü değerlerini kapsayan insani değerler gelişimlerini incelemektir. Bu kapsamda araştırma 6'ncı, 7'nci ve 8'inci sınıflarında öğrenim gören 521 ilkokul öğrencisiyle gerçekleştirilmiştir. Verilerin analizinde öncelikle, internet kullanım alışkanlıkları açısından benzer özellikler sergileyen öğrencilerin dahil oldukları kategorileri belirleyebilmek için kümeleme analizi yapılmıştır. Daha sonra, her bir kümeyi değerlendirebilmek için çapraz tablolar, ortalamalar, yüzdeler ve frekanslar hesaplanmıştır. Ayrıca kümeler açısından insani değerler düzeyinin anlamlı bir şekilde farklılaşıp farklılaşmadığı tek yönlü varyans analizi (ANOVA) ile test edilmiştir. Araştırma sonucunda, İnternet kullanım süresi ve İnternette iletişim kurma, oyun oynama, öğrenme ve vakit geçirme sıklığı değişkenleri açısından öğrencilerin dört farklı kümeye ayrıldığı belirlenmiştir. Ayrıca İnterneti en yoğun kullanan küme ile en az kullanan küme arasında sorumluluk, barışçıl olma, saygı değerleri ve genel olarak insani değerler açısından anlamlı farklılığın olduğu belirlenmiştir.

**Anahtar sözcükler:** internet kullanımı, insani değerler, çocuk gelişimi, kümeleme analizi

## 1. INTRODUCTION

With the developments in information and communication technologies (ICTs), the present world is exposed to transformation each passing day. Especially thanks to various superiorities such as easy access, a large amount of information and rapid interaction, it re-shapes human life. The boundaries of the global world have become narrower due to these technologies in this information age. In today's digital world, ICTs have become indispensable in any field of daily life from education to health and from politics to business. Such technologies as mobile phones, tablet computers and Wi-Fi connections have all made the Internet a part of daily life. As a tool for social communication, the Internet, with its increasingly widespread usage, is now used effectively and intensively by children as well.

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### 1.1. Internet Usage

According to the data provided in 2011 by the International Telecommunication Union (ITU), one-third of all people on Earth (approximately 2.3 billion) are using the Internet, and 45% of these Internet users are young people (aged under 25) (International Telecommunication Union, 2011). The decreasing cost of the Internet especially accompanied by the spread of smart phones and by broadband wireless Internet connection has increased Internet usage. Studies conducted within the scope of ICTs use demonstrated that the average rate of Internet access at home for the European Union in 2012 was 73.2% and that the average rate for Organisation for Economic Cooperation and Development (OECD) was 71.6% (Organisation for Economic Cooperation and Development, 2012). Livingstone and Helsper (2007) reported that in United Kingdom, 97% of children aged between 9-19 were Internet users and that 41% of them used the Internet for more than an hour a day. The study also revealed that the young population of Internet users was gradually increasing and connected to the Internet for longer periods of time. The rate of Internet access was 41.6% in Turkey, which is lower than the average rate for the European Union and OECD (Organisation for Economic Cooperation and Development, 2012). However, although the Internet access rate was low in Turkey, the recent statistical data have demonstrated that the Internet usage rate in Turkey has increased up to 47.4% and that the Internet is used at most by individuals aged between 16-24. In addition, 63% of Internet users are regular those who connect to the Internet every day for such purposes as online communication, obtaining information, online game playing and watching videos (Turkish Statistical Institute, 2012). It shows that Internet usage has gradually increased in Turkey just as it has in all around the world and that those who intensively use the Internet are children and adolescents.

### 1.2. Child Development and Human Values

Child development refers to the process of children's acquisition of complex, social, emotional and cognitive skills (Johnson & Puplampu, 2008). As for the development of values and character, it refers to the formation of such individual characteristics as inter-personal behavior, habits, values, beliefs and thoughts (Campbell & Bond, 1982). Values based on the concept of "being a good and virtuous human" are likely to change over time with respect to their focus point. For example, values related to production and bureaucracy such as working in cooperation, obedience to authority and work ethics appropriate to the industrial revolution have been replaced in this information age with such values as truthfulness, integrity, individual responsibility, humility, wisdom, justice, steadfastness and dependability (Huitt, 2004). Although values differ depending on the current era with respect to their focus point, the formation and development of character and values are considered to be among fairly important subjects. According to moral development theories, children should become individuals with such social values as justice, fairness, trustworthiness and self-control (Broderick & Blewitt, 2009). In this respect, a number of theorists from different fields (Piaget 1974; Kohlberg 1987; Dewey 1928) developed theories regarding moral development and divided children into developmental periods with respect to their ages, and they all reported that children should become individuals in general with universal values and in particular with the society they live in. Considering the fact that children are not born with moral values at all; that they grow up under the influence of such environmental factors as their family and the society (Bull, 1969); and that they adopt not only the values of their own family but also those of their social environment (Kohlberg, 1987), moral and value development is regarded as one of the most important parts of child development and is shaped in line with the influence of the social environment.

There are a number of factors influencing the developmental process of children such as heredity, parent-child interaction, school, friends, social environment, the society and technological devices (Campbell & Bond, 1982). The developmental process is influenced

directly and indirectly at micro level by parents and by the close environment and at macro level by the social environment such as social norms and culture (Bronfenbrenner, 2005). Individuals gain their values mostly during their childhood period within the social environment they live in (family, peers, relatives, school, neighbors and so on). This period, when individuals learn what is good and bad and what is right and wrong, is mostly identified with moral education (Dilmac, 2007). In this respect, there are a lot of environmental factors important for the developmental process of children. In this developmental period, children develop their cognitive skills depending on the environmental factors, shape their emotional reactions and create their own human values regarding social life. Especially the attitudes, beliefs and values of parents, who are in the immediate environment of children, are among the most important social factors in the development of children (Xu & Filler, 2008).

### **1.3. Digital Technologies, Child Development and Human Values**

Another factor influential on the process of child development includes digital technologies. With the development and spread of such technologies as mobile phones, computers, the Internet, television and portable video devices, these technologies contribute to the cognitive, affective and social developments of children as much as their parents do (Johnson & Pupilampu, 2008). Considering the fact that especially today's children, who are digital natives (Prensky, 2001), live in a world of digital technologies, the contribution of digital technologies to the development of these children is a lot more than it was in the past. In the Internet environment, which has no boundaries allowing communication with other individuals all around the world and which is more difficult to control than traditional methods, children are likely to interact with other individuals more than they do with their families (Cho & Cheon, 2005). Electronic media has now taken the place of the interaction between family members and become an important factor in children's learning processes (Lickona, 2004). As mentioned by Greenfield and Yan (2006), the fact that when compared to the television and computer, the Internet provides children with a more complex and constantly-growing world increases the importance of the Internet in child development. Studies conducted revealed that activities carried out via the Internet, which involves intensive interaction, have positive effects on the development of children. Johnson and Johnson (2008) reported that learning and communication activities conducted via the Internet improved children's cognitive skills. In their study, Jackson and her colleagues (2006) stated that regular Internet usage had positive influence on children's comprehension and reading skills. It is reported out by another researcher that Internet activities involving communication, online learning and online game playing have positive influence on children's language development, meta-cognitive planning, visual perception and auditory memory skills than do socioeconomic factors (Johnson, 2010). Similarly, online communication activities are reported to contribute positively to the development of children's complex foreign language skills (Coniam & Wong, 2004). Johnson (2006) claimed that playing online games via the Internet has important effects on children's development of such cognitive skills and strategies as fast information processing, taking simultaneous actions, visual memory and attention.

Although the Internet is regarded as one of the important factors in child development, it should be remembered that the Internet has negative effects on child development as well. Even though the criticism against ICTs that it makes people asocial (Schott & Selwyn, 2000) has been refuted by the Internet, it is reported that long-term and intensive use of the Internet could lead to such physical problems as dry eye and visual impairment; such social problems as social isolation, violence, pornography, gambling and exposure to dangerous contents; such mental problems as stunted imagination, poor concentration and distraction from meaning; and such moral problems as lack and loss of value (Cordes & Miller, 2000). In addition, it is also stated

that depending on its excessive usage, the Internet leads to personal, family-related and professional pathological problems similar to addictions such as gambling, alcohol and eating disorder (Young, 1998).

The unlimited and intensive information provided by the Internet demonstrates that the Internet has much more importance than other technologies as it allows not only interaction with other individuals by concealing one's identity but also character and value development. Studies conducted revealed that there is a correlation between Internet usage and human values. In one study, Besley (2008) tested the relationship between human values and media usage – including Internet usage. The results of the study revealed that especially Internet usage had a relationship with the positive or negative development of human values. Fuglsang (2005) emphasized the changes that occur in individuals via social interaction by saying that specifically the Internet makes individuals active citizens. Therefore, it is natural that Internet usage based on social communication has influence on the moral and human values of a child. The Internet and the Social Sites Networks (SNSs) have an important place in moral developments of individuals. Greenfield (2004) reported that sexual contents found on the Internet have influence not only on the sex-related behavior and attitudes of children and adults, but also on their moral values. Especially in families that involve low levels of attachment and communication between the parents and the child, children interact not much with their parents, who have important influence on the development of their children's moral values but mostly with technological devices and other individuals in their immediate environments (Cho & Cheon, 2005). In this respect, negative situations like violence, sexual contents and gambling that children in such families are likely to encounter on the Internet could have stronger influence on children's moral development. In addition, Cho and Cheon (2005) emphasized that children are more exposed to such negative situations as violence, sexual contents and gambling on the Internet than their parents can predict. Finally, there are also other studies which examined the relationship between children's Internet usage and negative behavior like violence (Berson, Berson & Ferron, 2002), bullying (Kowalski & Limber, 2007), stress (Leung, 2007), depression (Guo et al., 2012) and loneliness (Ceyhan & Ceyhan, 2008) and which reported that problematic Internet usage triggers such negative behavior.

This study focused on the influence of a different Internet usage habit in the period of childhood on the development of human values. In addition, the Internet was examined as an ecological factor in child development.

## **2. METHOD**

### **2.1. Research Method**

In the present study, both descriptive and relationship design methods were employed. In order to find out the existing properties of the clusters for the children who had similar characteristics in terms of their Internet usage habits, the descriptive design method was applied. In order to explain the relationship between human value development levels and the clusters, the relationship design method was used.

### **2.2. Participants**

The target population of the study was made up of 521 pupils from two secondary schools with different socio-economic levels in the academic year of 2012-2013. Of all the pupils participating in the study, 37% of them were attending a school with a low socio-economic level,

and 63% of them were from a middle socio-economic level. Moreover, among the pupils participating in the study, 52% of them were female, and 48% of them were male. Of all, 32% of them were 6th-grade pupils; 36% of them 7th-grade; and 32% of them were 8th-grade pupils. In addition, 10% of all the pupils were 11 years old; 32% of them 12 years old; 34% of them 13 years old; 23% of them 14 years old; and 1% of them were 15 years old.

### 2.3. Instrument

In order to collect the research data in line with the purpose of the study, the *Internet Usage Questionnaire* developed by the researchers and the *Human Values Scale* were applied. The scale was developed by Dilmac (2007) to determine students' levels of human values. The scale made up of 5-point Likert-Type items ranged from "Never" to "Always" focuses on human values under such dimensions as responsibility, friendship, peaceful, respect, tolerance, and veracity. The total variance explained by the six-dimension scale is 34.48%; the Cronbach's Alpha reliability coefficient is .92; and the test-retest consistency coefficient is .87. The scale produces 42 as the lowest score and 210 as the highest. The increasing scores to be obtained from the scale demonstrate that individuals have more human values, and the decreasing scores refer to fewer human values for individuals (Dilmac, 2007). In the study, the Cronbach's Alpha reliability coefficient for the scale items was calculated as .82.

The questionnaire developed by the researchers included three questions to determine such demographic features of children as gender, age and school grade and six questions to determine such Internet usage habits of children as the duration of their access to the Internet, their Internet usage frequencies and the place where they access the Internet. All the items of the questionnaire were nominal and ordinal scale. In the process of developing the questionnaire, first of all, the draft items were prepared by reviewing the related literature. Following this, field experts were asked for their views in order to test the content validity of the questionnaire developed.

### 2.4. Data Analysis

First, the normality of the scale data was tested. For this purpose, Kolmogorov-Smirnov test was applied. According to the results of the One-Sample Kolmogorov-Smirnov test, the data collected with the scale had a normal distribution:  $D(521)=1,210, p>.05$ .

In order to determine the categories for the children who had similar characteristics in terms of their Internet usage habits, cluster analysis was conducted. As the cluster analysis method, Hierarchical Cluster Analysis and K-Means Cluster Analysis were used together. Squared Euclidean Distance was used to determine the cluster distance; and Ward's Method, the most popular and best-result revealing method, was applied as the clustering method (Malhotra, 2007).

Crosstabs were used to examine each cluster with respect to the demographic variables, Internet usage habit and human values; and the means, percentages and frequencies were calculated for each cluster. In addition, in order to find out whether the cluster means differed significantly with respect to the independent variables, one way-ANOVA was applied. In case of a difference, Scheffe post hoc multiple comparisons test was conducted to determine which groups caused the difference.

### 3. FINDINGS

#### 3.1. Habits of Internet Usage

The categories for the children who had similar characteristics in terms of their internet usage habits were explored with the cluster analysis. In the study, the variables examined with the cluster analysis were not considered individually but as a whole. The cluster analysis is a technique that helps divide the units, variables or units and variables – whose natural groupings are not clearly known - into clusters that have similar features (Ozdamar, 2004). In the study, the cluster analysis included such variables as the average Internet usage time in a day, frequency of online communication, frequency of online learning, frequency of online game playing, and frequency of online surfing. In the cluster analysis, first of all, the probable cluster structures (3, 4 or 5 clusters) were determined with the Hierarchical Cluster Analysis. Following this, the Agglomeration Schedule and Dendrogram graphics formed based on the distance coefficients were examined to determine both the most appropriate cluster and the children belonging to this cluster. In addition, examination of the ANOVA Tables revealed a significant difference in the variables included in the cluster analysis in terms of the clusters formed ( $F_{\text{internet usage time}}=715.786$ ,  $p<.001$ ;  $F_{\text{online communication}}=163.749$ ,  $p<.001$ ;  $F_{\text{online learning}}=19.025$ ,  $p<.001$ ;  $F_{\text{online game playing}}=86.900$ ,  $p<.001$ ;  $F_{\text{online surfing}}=404.879$ ,  $p<.001$ ). Following this, in order to determine the validity and reliability of the cluster analysis, the data were re-analyzed with the K-Means Cluster Analysis. The results of this analysis demonstrated that the number of the members in the clusters (I\_OAW=159; I\_STAW=111; I\_OAD=125; I\_STAD=126) and the characteristics of the clusters were similar to those found in the Hierarchical Cluster Analysis. In other words, it was found out as a result of the two analyses that there were similar numbers of children in the clusters and that all the children were found in similar clusters. As a result of the cluster analysis, the clusters formed by the children with respect to their Internet usage habits were named as in Table 1, which presents the means, frequencies and percentages for each cluster.

**Table 1: Cluster Names, Descriptions, and Number of Cluster Members**

Cluster Name	Cluster Description	N	%
I_OAW	Users using the Internet once a week	173	33.2
I_STAW	Users using the Internet several times a week	104	20.0
I_OAD	Users using the Internet once a day	123	23.6
I_STAD	Users using the Internet several times a day	121	23.2
Total		521	100.0

When the clusters formed by the children with respect to their Internet usage habits were examined, it was seen that the four clusters demonstrated increasing/decreasing characteristics in terms of the Internet usage time and Internet usage frequency. The cluster of I\_OAW (33%) formed by the children using the Internet once a week was the biggest one of all the clusters. This cluster was followed by the cluster of I\_OAD (24%) formed by the children using the Internet frequently and the cluster of I\_STAD (23%) formed by the children using the Internet very frequently. The cluster of I\_STAW (20%) formed by the children using the Internet less frequently was the smallest one among all the clusters.

When the group profiles of the clusters presented in Figure 1 were examined, it was seen that the cluster of I\_STAD was formed mostly by male children (66%); that they regularly used the Internet every day for three hours a day on average; that most of them connected to the Internet at home (89%); and that they used the Internet several times a day for such purposes as

communication (71%), online game playing (64%) and online surfing (74%) and several times a week for online learning purposes (51%). In general, it could be stated that this cluster was mostly made up of male children who used the Internet most frequently and especially for entertainment purposes. As for the cluster of I\_OAD, it was one which included more female children (55%). The children in this cluster regularly used the Internet almost every day for an hour a day on average. They connected to the Internet at home (68%) and used it several times a week for such purposes as online game playing (72%), online surfing (60%), online learning (60%) and communication (55%). Generally, it could be stated that this cluster was made up a bit more female children who used the Internet almost every day for entertainment and learning purposes.

<b>I_OAD</b> <ul style="list-style-type: none"> <li>- There are more female children</li> <li>- They use the Internet for an hour a day on average</li> <li>- Most of them connect to the Internet at home</li> <li>- They use the Internet several times a week for such purposes as online playing, online surfing, online learning and communication</li> </ul>	<b>I_STAD</b> <ul style="list-style-type: none"> <li>- Most of the children are male</li> <li>- They use the Internet for three hours a day on average</li> <li>- Most of them connect to the Internet at home</li> <li>- They use the Internet everyday for the purposes of online surfing, communication and online playing</li> <li>- They use the Internet several times a week for online learning purposes</li> </ul>
<b>I_OAW</b> <ul style="list-style-type: none"> <li>- Most of them are female</li> <li>- They use the Internet for an hour a week on average</li> <li>- They mostly connect to the Internet at school</li> <li>- They use the Internet several times a week for online learning purposes</li> <li>- They use the Internet once or less a month for such purposes as online surfing, communication and online playing</li> </ul>	<b>I_STAW</b> <ul style="list-style-type: none"> <li>- There are more male children</li> <li>- They use the Internet for two hours a week on average</li> <li>- They mostly connect to the Internet at home</li> <li>- They use the Internet several times a week for such purposes as online playing, online learning and communication</li> <li>- They use the Internet once a week for the purpose of online surfing</li> </ul>

Figure 1. Preferences of clusters

The cluster of I\_STAW was one including more male children (51%) who used the Internet for two hours a week on average. The children in this cluster mostly connected to the Internet at home (57%) and used it several times a week for such purposes as online game playing (72%), online learning (68%) and communication (65%) and once a week for the purpose of online surfing (82%). In general, it could be stated that this cluster was made up a bit more male children who used the Internet several times a week for the purposes of online learning and communication. Lastly, the cluster of I\_OAW was mostly made up of female children (65%) who used the Internet for an hour a week on average. These children connected to the Internet more at school (32%) and less at home (28%) and used it several times a week for online learning purposes (61%) and once a month or less for such purposes as online surfing (97%), communication (82%) and online game playing (67%). In general, it could be stated that this cluster was the one mostly made up of female children who used the Internet least and for online learning purposes.

Consequently, it is revealed that 521 the participating pupils aged between 11 and 15 fell into four different clusters in terms of their Internet usage habits. Between the four groups, there were differences with respect to gender, the place of connection to the Internet and Internet usage purposes. For instance, Internet usage frequency (once a day, several times a day, once a week and several times a week) or gender could change children's Internet usage profiles. It is also seen that Internet usage for such purposes as online playing, online learning and communication change children's Internet usage profiles. This finding is similar to that of another study carried

out by Valcke, De Wever, Van Keer and Schellens (2011). In their long-term study that carried out with 10000 children in Belgium, Valcke and his colleagues found out that the boys used the Internet higher than the girls and the children mostly used the Internet for such purposes as entertainment, infotainment and educational.

### 3.2. Human Values

The clusters formed by the children with respect to their Internet usage habits were examined within the scope of human values, and the results obtained are presented in Table 2.

**Table 2: Descriptive Statistics Regarding Human Values**

Values	I_OAW		I_STAW		I_OAD		I_STAD		Mean	SD
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Responsibility	28.3	4.09	27.9	4.37	27.6	4.37	26.1	4.22	27.5	4.31
Friendship	28.1	4.36	28.6	4.20	28.5	3.74	28.6	4.08	28.4	4.12
Peaceful	27.2	3.85	27.0	4.16	26.4	4.30	24.1	4.42	26.2	4.31
Respect	29.1	4.06	28.2	4.02	28.1	4.39	26.8	4.39	28.2	4.29
Veracity	28.0	3.56	27.4	3.73	27.3	3.73	27.1	3.86	27.5	3.71
Tolerance	23.1	4.08	23.1	3.81	22.8	3.88	22.7	4.07	23.0	3.97
Human Values	163.9	16.72	162.2	17.02	160.7	17.72	155.4	16.81	160.8	17.29

As can be seen in Table 2, the children generally received high scores from the human values scale (Mean=160.8, SD=17.29). Thus, it could be stated that the children generally had high-level development of human values. When the children's scores regarding the sub-dimensions were examined, it was seen that the tolerance value was at a moderate level (Mean=23.0, SD=3.97) and that the values of responsibility (Mean=27.5, SD=4.31), friendship (Mean=28.4, SD=4.12), peaceful (Mean=26.2, SD=4.31), respect (Mean=28.2, SD=4.29) and veracity (Mean=27.5, SD=3.71) were high. Thus, it could be stated that the children generally demonstrated a moderate-level development for the tolerance value and high-level developments for the other values. It could also be stated that the value developments were observed at most for friendship and at least for tolerance.

When the clusters formed by the children were examined independently with respect to the Internet usage habit, it was seen that there was a negative relationship between the development of human values and Internet usage time and frequency. In other words, when the Internet usage time and frequency increased, the human values score decreased; and when the Internet usage time and frequency decreased, the human values score increased. Depending on this result, it was seen that the cluster of I\_OAW, which used the Internet least, was the one with the highest level of development in terms of human values and the sub-dimensions and that the cluster of I\_STAD, which used the Internet most, was the one with the lowest level of development in terms of human values and the sub-dimensions. In addition, it was found out that the cluster of I\_STAD had a higher score than the mean only for the development of the friendship value and a lower score than the mean for the other values; and that the cluster of I\_OAD had a higher score than the mean for the development of such values as responsibility, friendship and peaceful and a lower score than the mean for the other values. As for the cluster of I\_STAW, this cluster had a higher score than the mean for the development of all the values except for veracity, and the cluster of I\_OAW had a higher score than the mean for all the values except for friendship.



**Table 3: Results of ANOVA in terms of Clusters**

Values	df	F value	$\eta$	$\eta^2$
Responsibility	3-517	6.791***	.20	.04
Peaceful	3-517	14.721***	.28	.08
Respect	3-517	7.424***	.20	.04
Human Values	3-517	6.173***	.19	.04

\*p&lt;.05; \*\*p&lt;.01; \*\*\*p&lt;.001

When the difference between the clusters' scores regarding the human values and the sub-dimensions was statistically examined, it was, as presented in Table 3, found out that there was a significant difference between the scores in terms of responsibility, peaceful, respect and human values. In other words, the children's scores regarding the human values, responsibility, peaceful and respect differed significantly with respect to their Internet usage habits.

When the eta squared value was examined with respect to the critical effect size determined by Cohen (1988), it was seen that the Internet usage habit had a moderate level of effect on the development of the value of peaceful (.06< eta squared <.14) and a low level of effect on the development of responsibility, respect and human values (.01< eta squared <.06). According to this result, Internet usage habit explains the variance in the development of the value of peaceful at a moderate level and the variance in the development of responsibility, respect and human values at a low level.

**Table 4: Results of Post Hoc Multiple Comparisons**

n=521	I_OAW	I_STAW	I_OAD	I_STAD
Responsibility				
I_OAW	—	.362	.717	2.196***
I_STAW		—	.355	1.833**
I_OAD			—	1.478
Peaceful				
I_OAW	—	.215	.744	3.068***
I_STAW		—	.529	2.852***
I_OAD			—	2.323***
Respect				
I_OAW	—	.956	1.016	2.353***
I_STAW		—	.060	1.397
I_OAD			—	1.336
Human Values				
I_OAW	—	1.682	3.180	8.483**
I_STAW		—	1.498	6.801*
I_OAD			—	5.302

\*p&lt;.05; \*\*p&lt;.01; \*\*\*p&lt;.001

As can be seen in Table 4, the results of the Scheffe post hoc multiple comparison test revealed that the cluster of I\_STAD, which had a high level of Internet usage and the cluster of I\_OAW, which had a low level of Internet usage, differed significantly with respect to the development of responsibility, peaceful, respect and human values. In addition, the cluster of I\_STAD and the cluster of I\_STAW, which had a relatively low level of Internet usage, differed significantly with respect to the development of responsibility, peaceful and human values. The cluster of I\_STAD and the cluster of I\_OAD, which had a relatively high level of Internet usage, differed significantly only with respect to the development of the value of peaceful.

#### 4. DISCUSSION and RESULTS

In the light of the findings, all the students participating in the study had high levels of development of human values with respect to all the clusters they formed in line with their Internet usage habits. In addition, the clusters using the Internet regularly at least once a day every day had lower levels of development of human values than the overall average. In other words, a negative relationship was found between the level of the development of human values and Internet usage time and frequency. The children with an increasing Internet usage time and frequency had lower levels of development of human values than the other children. This finding supports not only the claim put forward by Cordes and Miller (2000) that overuse of the Internet could lead to such moral problems as lack and loss of values but also the assertion put forward by Besley (2008) that Internet usage has negative influence on the development of human values. This result is also consistent with the view held by Johnson (2010) that interactive environments like the Internet should be considered together with the sub-dimension of techno-subsystems within the scope of the immediate environmental factors in child development.

When the human value development levels of the children were examined in terms of the sub-dimensions, it was seen that there was a moderate level of tolerance value development and high levels of development for the other five values (responsibility, friendship, peaceful, respect and veracity). This finding is parallel to that of another study carried out by Dilmac (2007). In his study, Dilmac (2007) found out that the students had the lowest level of value development for tolerance. The low level of value development of tolerance could be said to be a general character of these children, who are called “net generation” or “digital natives” (Prensky, 2001). Digital natives prefer socialization via Internet-supported technology. In this respect, according to digital natives, the most important aspect of technology is the availability of instant feedback, which increases their intolerance (Bennett et al. 2008; Guo, Dobson & Petrina, 2008). In addition, it is seen that there is a negative relationship between the development levels of human values sub-dimensions and Internet usage time and frequency.

Another important finding obtained in the study was the fact that online surfing and online game playing were the ones with biggest negative relationship between human value development levels and Internet usage habits. In other words, the children who frequently used the Internet for such purposes as online game playing and online surfing had lower levels of development of human values. It could have resulted from the fact that the children unconscious and overused the Internet without any control over them. This way of using the Internet, known as problematic Internet usage, may affect children’s moral and human values. In their study, Livingstone and Helsper (2010) pointed out that the Internet brings about certain risks though it is expected to provide people with important opportunities. When the use of digital technologies and the Internet is taken into consideration, digital native children can use these technologies better than their teachers as well as than their digital immigrant parents (Prensky, 2001). In addition, parents able to control their children in the outer world in terms of social development could be inefficient in the digital world. This brings about certain problems called problematic or pathological Internet usage which covers such subjects as overuse of the Internet or Internet addiction (Niemz et al., 2005). Thanks to the Internet, children can easily access the information that they are not likely to access in an environment except for the Internet. It demonstrates that the Internet is not only an important source of information for children, but also a technology that brings about problems based on the social environment. Moreover, it should be remembered that the information found on the Internet could be wrong or unreliable besides such risks related to harmful content and wrong communication (De Moore et al., 2008). Studies on children’s Internet usage show that children usually establish communication with a foreigner in the Internet environment and that one third of children visit a website with inappropriate content such as guns, explosives or pornography, shared their privacy information, believed and trusted information on the Internet and did not question the reliability of the information presented via the Internet

(Livingstone & Bober, 2004; Stalh & Fritz, 2002). Furthermore, the results obtained in other studies revealed that there is a relationship between problematic Internet usage and such factors as loneliness, low self-esteem, depression, symptoms of antisocial tendencies and external control, social disinhibition, low social support and pleasure with the Internet (Ceyhan & Ceyhan, 2008); that overuse of the Internet increases the risk in depression (Guo et al., 2012); and that the use of Internet technologies is gradually increasing and is likely to result in Internet addiction, which will then lead to individual and social problems (Young, 1998). However, besides the psycho-social problems caused by problematic Internet usage, its possible negative effect on moral and human values development should not be forgotten. The present research findings could be said to support the possible negative influence of uncontrolled and excessive use of the Internet on human value development.

The negative relationship between Internet usage and children's development of human values might have resulted from the digital games. Digital games, as demonstrated by the findings obtained in the present study, are among the primary purposes of children's Internet usage (Faltin, 2011; Wilson, 2008). Anderson and Bushman (2001) stated that computer games cause children to demonstrate aggressive behavior and that both the type of the game and the time and frequency of playing these games increase the tendency towards violence. It was reported in other studies/study that there is a relationship between playing violence-involved games and antisocial attitudes (Jackson et al., 2007). Harman and his colleagues (2005), in their study, found out that the social developments of children who use the Internet frequently and spend their time playing computer games recede considerably and that these children have low levels of self-confidence and high levels of social anxiety and demonstrate highly aggressive behavior. Considering the fact that today's children, called digital natives, lead a game-oriented life (Pernsky, 2001) and that digital games trigger their impatience and intolerance (Faltin, 2011; Wilson, 2008), the influence of the Internet on the development of human values should not be ignored. Therefore, this supports the finding of the present study that there was a negative relationship between children's Internet usage habits and the development of the value of being peaceful.

## 5. CONCLUSIONS

The facilities and the benefits brought about by the Internet have made the Internet an indispensable part of the present social life, and its usage is increasing day by day. Studies conducted also draw the attention to the potential problems that such a technology is likely to cause. It has also become evident thanks to studies that especially psycho-social problems are likely to result from problematic Internet usage. Therefore, it is important to examine the negative influence of false usage of the Internet on children's moral and human value development. In this respect, in line with the results of the present study, the researchers mentioned two important points. Firstly, technology should now be considered as an immediate environmental factor in child development like the parents, relatives, close friends, teachers and neighbors. The second important point is the negative relationship between the technology, especially the Internet, and children's moral and human value development.

As the limitations to the present study, it could be stated that the study involved a study group which was small in size and that Internet usage habits and Internet usage time and frequency covered such activities as online communication, online learning, online game playing and online surfing. Therefore, it could be suggested that future studies could be conducted with diverse study groups beyond the socio-economic to investigate the possible negative effects of problematic Internet usage on moral and human value development and that these studies could make more in-depth qualitative evaluations involving different variables. In addition, other practical suggestions could include observing children in the Internet environment, raising parents

and teachers' awareness of Internet usage, providing children with education on self-control especially for violence-involved games that are likely to result in addiction, and raising children's consciousness of unproblematic internet usage at an earlier age.

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## Genişletilmiş Özet

Günümüzün dijital dünyasında teknolojide yaşanan gelişmelerle birlikte eğitimden sağlığa, politikadan ticarete günlük yaşamın her alanında ICT özellikle İnternet artık vazgeçilmez bir hale gelmiştir. Teknolojinin günlük yaşamda bu denli yoğun kullanımı teknolojinin yalnızca bilişsel gelişim için değil ahlaki gelişim için de önemli bir faktör olduğunu ortaya koymaktadır. Bazı araştırmacılar tarafından günümüz karmaşık ve kompleks teknolojik araçlarının bireyin gelişimi üzerinde doğrudan etkisinin olduğunu ifade edilmektedir. Özellikle çocuk gelişimi için aile ve okul gibi ortamların dışında cep telefonu, bilgisayar, yazılım, televizyon, taşınabilir video aygıtları gibi teknolojik araçların da önemli yer tuttuğu öne sürülmüştür. Buna göre çocukların teknolojik araçlarla doğrudan etkileşime girdiği, bu teknolojileri iletişim, öğrenme ve eğlenme amacıyla yoğun bir biçimde kullandığı ve özellikle İnternet gibi yüksek etkileşimli ortamların çocukların gelişimleri üzerinde önemli etkilere sahip özelliğinin bulunduğu belirtilmektedir. Bu araştırma, çocukluk dönemindeki farklı İnternet kullanım alışkanlığının insani değerler gelişimi üzerindeki etkisine odaklanmaktadır. Bu bağlamda, İnternet kullanım süresi ve İnternette gerçekleştirilen iletişim, oyun, öğrenme ve vakit geçirme gibi etkinliklerin sıklığı ve süresi değişkenleri açısından benzer özellikler sergileyen çocukların sorumluluk, dostluk/arkadaşlık, barışçı olma, saygı, dürüstlük ve hoşgörü değerlerini kapsayan insani değerler gelişimleri incelenmektedir.

Araştırmanın hedef kitlesini 2012-2013 öğretim yılında farklı sosyo-ekonomik özelliklere sahip iki orta okulda 6'ncı, 7'nci ve 8'inci sınıfta öğrenim gören 521 öğrenci oluşturmaktadır. Öğrencilerin yaş aralıkları ise 11 ila 15'dir. Verilerin toplanması için Bülent Dilmaç tarafından 2007 yılında geliştirilen "İnsani Değerler Ölçeği" ve araştırmacılar tarafından geliştirilen "İnternet Kullanım Anketi" kullanılmıştır. İnsani değerler ölçeği, öğrencilerin insani değerler düzeyini belirlemek amacıyla geliştirilmiştir. Ölçek beşli likert şeklinde 42 maddeden oluşmaktadır. Ölçek üzerinden alınan puanların artması daha fazla insani değerlere sahip olduğunu, azalması ise daha az insani değerlere sahip olduğunu göstermektedir. Ölçek insani değerleri sorumluluk, dostluk/arkadaşlık, barışçı olma, saygı, hoşgörü ve dürüstlük boyutuyla ele almaktadır. Altı boyutlu ölçeğin açıkladığı toplam varyans %34.48, Cronbach's Alpha güvenirlik katsayısı .92 ve test-tekrar test kararlılık katsayısı ise .87'dir. Araştırmacılar tarafından geliştirilen İnternet kullanım anketi ise hem öğrencilerin cinsiyet, yaş, sınıf gibi demografik özelliklerini belirlemeye hem de İnternet bağlantı süresi, kullanım sıklığı, bağlantı yeri, kullanım amacı gibi İnternet kullanım alışkanlıklarını belirlemeye yönelik kategorik ve sıralama düzeyinde sorular bulunmaktadır. Verilerin analizinde öncelikle elde edilen verilerin normalliği ve homojenliği test edilmiştir. Daha sonra ölçek maddelerinin güvenirliği test edilmiş ve Cronbach's Alpha güvenirlik katsayısı .82 olarak bulunmuştur. Öğrencilerin sahip oldukları İnternet kullanım alışkanlıkları açısından dahil oldukları kategorileri belirleyebilmek için kümeleme analizi yapılmıştır. Kümeleme analizinde, kümeleme tekniği olarak Hiyerarşik Kümeleme Analizi ile K-Ortalamalar Kümeleme analizi, küme uzaklıklarının belirlenmesi için Öklit uzaklığının karesi, kümeleme yöntemi olarak ise en çok tercih edilen ve iyi sonuç veren Ward yöntemi kullanılmıştır.

Araştırma sonucunda İnternet bağlantı süresi ile iletişim, öğrenme, oyun ve vakit geçirme amacıyla İnternet kullanım sıklığı değişkenleri açısından dört farklı küme belirlenmiştir. Oluşan dört kümenin İnternet kullanım süresi ve sıklığı açısından artan/azalan özellikler sergilediği görülmüştür. Bu kümelerden en uç olanlar; günde ortalama üç saat ve her gün vakit geçirme, iletişim ve oyun amaçlı İnternet kullanan çoğunluğunu erkek öğrencilerin oluşturduğu küme ile haftada ortalama bir saat ve ayda bir ya da daha az vakit geçirme, iletişim ve oyun amaçlı İnternet kullanan çoğunluğunu kız öğrencilerin oluşturduğu

kümedir. Diğer iki küme ise İnternet kullanım sıklığı ve bağlantı süresi açısından bu kümeler arasında yer almaktadır.

İnternet kullanım alışkanlıkları açısından öğrencilerin oluşturdukları kümelerin insani değerler kapsamında yapılan değerlendirmesinde ise öğrencilerin insani değer puanların genel olarak yüksek düzeyde olduğu belirlenmiştir. Alt boyutlar açısından yapılan incelemede ise, hoşgörü değerinin orta düzeyde olduğu, diğer tüm değerlerin (sorumluluk, dostluk/arkadaşlık, barışçıl olma, saygı ve dürüstlük) yüksek olduğu görülmektedir. Buna göre öğrencilerin değer gelişimleri açısından en çok dostluk/arkadaşlık en az hoşgörü değerine sahip olduğu belirlenmiştir. Ayrıca İnternet kullanım sıklığı ve süresi ile insani değerler arasında ters yönlü bir ilişki bulunduğu görülmüştür. Buna göre İnternet kullanım süresi ve miktarı birlikte arttığında insani değerler puanı düşmekte, İnternet kullanım süresi ve miktarı birlikte azaldığında ise insani değerler puanı yükselmektedir. Ayrıca araştırma kapsamında incelenen İnternet etkinlikleri açısından oyun oynama ve amaçsız vakit geçirme etkinliğinin insani değer gelişim düzeyi ile en fazla negatif ilişki olan etkinlik olduğu belirlenmiştir. Buna göre İnternetin bilinçsiz ve kontrolsüz kullanımından kaynaklanan problemli İnternet kullanımının çocukların ahlaki ve insani değerler gelişimi üzerinde negatif ilişkisinin olduğu söylenebilir.

İnsani değerler puanları kümeler açısından istatistiksel olarak analiz edildiğinde insani değerler, sorumluluk, barışçıl olma ve saygı değerleri açısından puanlar arasında anlamlı farklılık olduğu görülmüştür. Farklılığa ilişkin eta kare değeri alanyazında belirtilen kritik etki büyüklüğüne göre incelendiğinde İnternet kullanım alışkanlığının barışçıl olma değerindeki varyansı orta düzeyde, sorumluluk ve saygı değerler ile genel olarak insani değerlerindeki varyansı düşük düzeyde açıkladığı belirlenmiştir.

Sonuç olarak araştırmanın sonuçları doğrultusunda iki önemli nokta öne çıkmaktadır. Bunlardan ilki teknolojinin artık çocuk gelişiminde ebeveyn, akraba, yakın arkadaş, öğretmen, komşu gibi birincil düzey çevresel faktör olarak dikkate alınması gerekliliğidir. İkincisi ise, teknolojinin özellikle de İnternetin yanlış kullanımı ile çocukların ahlaki ve insani değer gelişimleri arasındaki negatif ilişkidir. Bu nedenle ebeveyn ve öğretmenlerin İnternet kullanımı konusunda bilinçlendirilmesi ve problemli olmayan İnternet kullanım bilincinin küçük yaşta çocuklara kazandırılması önemlidir.

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