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Comparison of Value Perception of Children in Playing Videogames and Traditional Games: Turkish and British Samples *

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Abstract

The present study examined the value perceptions of Turkish and British children according to various variables and determined to what extent traditional and videogame genres preferred by children predict their value perceptions, dominant case design, one of the mixed research designs, was used. While the quantitative approach was mainly used in the research, the qualitative approach was used as a supporter. The data collection process of the study lasted for two academic years. In the first year, the study was conducted with 243 primary school students studying in Nottingham (England). In the following year it was conducted with 267 primary school students studying in Ankara (Turkey). A total of 510 primary school students with ages ranging from 9-11 years were recruited for the study. Data were collected using the "Personal Information Form" and "Moral Dilemma Stories Inventory for Children". Both were developed in English and then adapted into Turkish. It was found that, in both sample, girls' value perception scores were significantly higher than boys' scores. Videogames primarily produced for entertainment were the most preferred games by Turkish and British children while educational and serious videogames were the least preferred. Traditional games in sports (soccer, cricket, etc.) were preferred more by British children, while traditional action games (dodgeball, playing tag etc.) were preferred more by Turkish children. It was found that action-adventure and role-playing videogames predicted children's value perception negatively, and simulation and puzzle videogame genres predicted children's value perceptions positively. Furthermore, movement-based traditional games (sports, action) predicted children's value perceptions positively, while traditional competitive (racing) games predicted children's value perceptions negatively.

Keywords

Videogames
Traditional games
Type of game
Value perception
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Introduction

Moral values are usually central to individuals' identity and can shape their beliefs by accompanying these values with strong emotions (Baron & Spranca, 1997; Bartels & Pizarro, 2011). The issue of developing moral values among individuals, which has a social and political importance for many countries, is a process that is not possible in the short-term and requires long and continuous effort (Cooley, 2008; Halstead & Pike, 2006). Therefore, the issue of how these values, which are vital for the effective functioning of societies, can be developed among individuals is a worldwide problem that needs to be resolved.

The problem of teaching moral values to young generations correctly has led to the emergence of some developmental theories. Jean Piaget and Lawrence Kohlberg, two important moral development theorists, discussed moral development in terms of cognitive development. Both of them indicate that moral phenomenon consists of the individual's judgement and thoughts on moral situations. Piaget, trying to understand how moral values develop in children, started his studies before Kohlberg and focused on the construction, interpretation, and pronunciation of moral values from a social-cognitive and social-emotional perspective. At this point, Piaget opposed Durkheim's view that values are transferred from society to individuals and from adults to children, and opposed Skinner's argument that socialization is the main force underlying moral development (Carpendale, 2009; Piaget, Varma, & Williams, 1976). According to Piaget, the view of social development theory that "children passively adopt and follow social norms and therefore experience moral development" is problematic. With this approach, it is impossible to explain how moral values first develop.

On the other hand, although researchers (e.g., Çam, Çavdar, Seydooğulları, & Çok, 2012; Ekşi, 2006; Gürses & Kılavuz, 2016) claimed that Kohlberg's theory was built on Piaget's cognitive theory and then further developed, Kohlberg based his theory of moral development only on Piaget's basic standards for cognitive development and opposed much of Piaget's theory of moral development (Carpendale, 2009). Unlike Piaget, Kohlberg (1984) analysed his work not by observing children playing, but by giving children and adults specific moral dilemma situations and analysing their judgments about these situations through interviews. As a result of the studies, Kohlberg determined that the moral maturity of individuals is at different levels and discussed these levels in three different periods, namely the "pre-conventional level", "conventional level", and "post-conventional level". Kohlberg states that these developmental stages are universal, and that each individual continues their own moral development within their social environment. According to Kohlberg, each level form is the basis of next level, and is formed by the realization the previous level. However, not all individuals are expected to show all these developmental levels. Even the post-conventional level [especially the sixth level (universal ethical principle orientation)] is attained by very few.

Although different theories have been developed regarding how the perception of value is formed, value education begins to be given within the family from early childhood, when behavioural standards are learned by doing and experiencing. However, it would be a very shallow approach to limit the acquisition of values to the family only. The social environment in which children live, children's relationships with peers, the environments in which they receive education, and even personal epistemologies play an important role in shaping their value perceptions (Akbaş, 2008; Brownlee et al., 2012; Cesur & Küyel, 2010; Danovitch & Keil, 2007).

The play environment is seen as another important transmitter of values for children (Menendez-Ferreira, Gonzalez-Pardo, Ruíz Barquín, Maldonado, & Camacho, 2019; Önder, 2018; Yeniasır & Gökbulut, 2019). During games, children not only have fun, but also experience basic moral values such as sharing, obeying the rules, showing respect to opponents, being tolerant, etc. Many researchers (Aneja, 2014; Aypay, 2016; Bozkurt, 2019; Dehkordi, 2017; Önder, 2018; Singh, 2011; Sulistyaningtyas & Fauziah, 2019) state that traditional games make positive contributions to children's perceptions of value. However, it is seen that these discourses are not based on empirical findings, and the empirical studies (Lavega, Alonso, Etxebeste, Lagardera, & March, 2014; Özen, 2016; Yeniasır &

Gökbulut, 2019) conducted in this context are both limited and only specific traditional games are discussed. Therefore, it is not known what effect most of the traditional game genres preferred by children in their daily lives have on their value perceptions. In order to fill this existing gap in the literature, the present study aims to determine to what extent games predict the value perception of children by considering all of the traditional games preferred by children.

Technological developments that have been experienced for decades and the fact that the internet is increasingly accessible for everyone has made videogames a very attractive entertainment tool, especially for children and adolescents (Griffiths, Kuss, & King, 2012; Kuss, 2013; Prot, McDonald, Anderson, & Gentile, 2012; Skoric, Teo, & Neo, 2009; Yılmaz, Griffiths, & Kan, 2017). In addition, the narrowing of children's playgrounds and the change in play preferences with urbanization (Balci & Ahi, 2017; Demirel, Cicioğlu, & Demir, 2019), or the fact that children have had to spend a large part of the day at home due to epidemics such as COVID-19 (Teng, Pontes, Nie, Griffiths, & Guo, 2021) can be seen as other environmental factors that increase the likelihood of playing videogames. This situation has led to the questioning of the effects of playing videogames, especially on children. Studies have shown that videogames contribute to players' cognitive (Barlett, Vowels, Shanteau, Crow, & Miller, 2009; Gentile, 2011; Green & Seitz, 2015; Murias, Kwok, Castillejo, Liu, & Iaria, 2016) and educational skills (Franceschini et al., 2013; Hwang, Chiu, & Chen, 2015; Yang, Chang, Hwang, & Zou, 2020), as well as helping the development of various social skills (Gürbüz et al., 2017; Lorusso et al., 2018). In contrast, it is seen that for a small minority videogame can cause various health problems (Ferreira et al., 2020; Griffiths, 2008), behavioural problems (Gentile, Li, Khoo, Prot, & Anderson, 2014; Griffiths, 2010a; Pujol et al., 2016) or educational problems (Brunborg, Mentzoni, & Frøyland, 2014; Yılmaz, Yel, & Griffiths, 2018) depending on their content. However, the studies examining the effects of videogames on the moral development of children (Funk, Baldacci, Pasold, & Baumgardner, 2004; Lin & Lin, 2014) are very limited and the need to empirically prove the claim that videogames contribute to the moral development of the players (Khoo, 2012) makes the present study necessary to carry out.

Value Education and Play

Rokeach (1973) defines values as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence". Schwartz (1992), defines core values as situational goals that serve as guiding principles in the life of a person or group and that the order of importance can change. Values are also conceptualizations of the individual as cognitive representations of three universal needs comprising biological, social interaction, and fulfilment of societal requirements. Each individual or group uses these values, which are cognitive representations, to explain their behaviour, justify the underlying causes, and ensure coordination between behaviours (Demirutku & Sümer, 2010). Familial and environmental factors can have a significant impact on the formation and development of individuals' perception of value. As a result of children's interactions with their mothers, fathers, and siblings, their first perceptions of value concepts begin to form (ăişi Lăzărescu, 2012; Sert-Ağır, 2020; Demirutku, 2017). Following this, newly added interactions with peers and the social environment play an important role in shaping children's perception of value (Oladipo, 2009; Schuitema, ten Dam, & Veugelers, 2008). For example, it is possible for children who grow up in a family or social environment where fighting and violence are constantly dominant, to normalize this behaviour over time and to be prone to violence themselves.

Value education is given to children to gain targeted values systematically. Value education is the process that enables individuals to adapt to the realities surrounding other individuals and evaluate what is good or bad, beautiful, or ugly (Aneja, 2014). This education can be given formally (in schools) or informally (in the family or social environment). However, informal education is not systematic, and its effectiveness may vary according to many different factors such as the attitude and adequacy of the family, or the state of the social environment in which they live (Barahate, 2014). Another important factor that enables children to meet with the concepts of value or to reinforce the acquired values is the

play environment (Dehkordi, 2017). Moreover, although the play environment is an informal process, it has a systematic structure with written and/or verbal rules.

It is seen that there are various definitions of the concept of play in the literature (Baykoç, 2006; Chatfield, 2011; Huizinga, 2015; Rowe, 1992). Although these definitions differ, play basically can be defined as all activities with and without rules with a specific purpose, which are voluntarily involved for the purpose of getting pleasure. Although the main purpose of playing games for children is to enjoy and get pleasure, this process also provides important contributions to their cognitive, emotional, and social development. By playing games, children have the opportunity to explore their environment as well as take the opportunity to test their own strengths and weaknesses, skills, and opportunities (Kovačević & Opić, 2014; Li, 2020; Tatira, 2014). Solutions are developed during the game, decisions are made, and the solution is put into practice. While all these processes support the thinking and decision-making skills of players, they also help in the development of problem-solving skills.

Playing games provide children with many skills and at the same time support their moral development. For example, in a football game, the team's success depends on each player's fulfilment of their responsibility and the best cooperation between the players. In this way, children who develop football skills also develop feelings of "responsibility" and "friendship". Children learn to cope with positive and negative feelings arising from interaction with other children during play (Başal, 2007; Gökşen, 2014; Lavega et al., 2014). During game play, children who lose learn to control their anger and accept losing and the winners learn to respect their opponents while experiencing the pleasure of it. In this way, they realize that winning and losing are both a part of life. On the other hand, games teach children to follow the rules and be honest. Players who break the rules or cheat face penalties such as personal backlash, penalty points, or expulsion from the game.

It is difficult to say that games contribute to children's positive moral values in every situation. For example, playing with toys like guns and swords can make children prone to violence, while overly competitive play can lead to intolerance, jealousy, or discrimination. Additionally, more attention should be paid to videogames, especially in terms of their effects on children. Because, they contain competitive content, offer players fast event flow and advanced visual/audio effects, offer increasingly realistic and interactive content, and allow individuals to realize things that they cannot achieve in their real lives, can cause players to have high motivation towards these games and spend long periods of time playing these games (Griffiths, 2010b; Haagsma, Pieterse, Peters, & King, 2013; Ng & Wiemer-Hastings, 2005; Shaffer, Squire, Halverson, & Gee, 2005; Yang et al., 2020). This situation has brought many concerns. Studies have shown that especially violent videogames trigger aggressive behaviours and create negative emotions such as fear, anxiety, anger, anxiety and hatred among players (Anderson et al., 2010; Anderson & Murphy, 2003; Lin, Luarn, & Lin, 2017).

In some videogames, female characters are presented as sexual commodities with sexy clothes, while male characters are presented as muscular, strong, aggressive, and therefore able to get anything they want. Furthermore, in videogames that contain scenes of violence and overt sexuality, it is common for game characters to insult each other, to speak slang, and to be abusive (Bushman & Anderson, 2002; Tang & Fox, 2016). Such videogames include many risks, especially for child players (Benrazavi, Teimouri, & Griffiths, 2015; Funk, Buchman, & Germann, 2000; Hartmann & Klimmt, 2006). Because children who play videogames for a long time can start to act and talk like them by identifying themselves with the game characters (Dickerman, Christensen, & Kerl-McClain, 2008). Consequently, some boys try to take the role of strong, aggressive, slang-talking, and abusive characters, while girls may try to have an idealised sexy body and display it. Another important risk that some videogames have is that they may send subliminal messages about racism and discrimination to the players. The fact that the protagonists in the games are generally white-skinned (Jansz & Martis, 2007), and the black-skinned male characters are almost always inclined to violence (Yang, Gibson, Lueke, Huesmann, & Bushman, 2014) can create the perception in the children that white-skinned individuals are heroes and good people, while the black-skinned individuals are bad people who commit crimes. As demonstrated, traditional games and videogames can have different effects on children's perceptions of value,

depending on their content and primary production purposes. Therefore, the games children will play should be well designed and suitable for their developmental characteristics (Aypay, 2016; Menendez-Ferreira et al., 2019). Attempting to determine in which direction (positive or negative) value perception of children are predicted by videogames and traditional games is important in filling this gap.

The Present Study

Primary schoolchildren were recruited for the present study. Children can be affected by social depressions and crisis much more easily than adults in the rapidly developing and changing world (Gürdoğan-Bayır, Çengelci-Köse, & Deveci, 2016). One of the main purposes of value education, which has been started to be carried out systematically with formal education, is to support children socially and emotionally from an early age, to prepare them for the age in which they live in the best way, and thus to build safe and peaceful societies (Tillman, 2014). In this process, perceptions of basic values formed in childhood, have an important place in the formation of their personalities (Doğanay, 2012). Therefore, it is important to create a classroom climate that brings and develops the values originated in the primary school process and to determine the value perceptions of the students.

The present study was also conducted in two different cultures (Turkish and British). Because the concepts of game, culture, and value have a close relationship with each other, and they are also complementary to each other. While games play an important role in transferring cultural values to children, culture is accepted as one of the most important psycho-social dynamics that determines the moral development of individuals (Aypay, 2016; Dehkordi, 2017; Önder, 2018; Şengün, 2007). Because, every society has its own moral norms, and social reactions may develop against individuals who do not comply with these norms (Özsarı & Öğretir-Özçelik, 2020). Therefore, the value perceptions of individuals who grow up in societies with different cultural characteristics can also differ. For example, in some societies, the mentality of "individuality" can be dominant, and the mentality of "us" may be dominant in others (Şeşen, Soran, & Caymaz, 2014). Again, while aesthetic perception may be very important for some societies, it may not be so important for others. The nature of the physical and social environment in which individuals live affects their perspectives on the world and their perceptions of value (Ersoy, 2018; Yılmaz, 2018). In addition, there are children's games that are common in many cultures, as well as culture-specific games (Plummer, 2008; Sher, 2009). It is also important to demonstrate an association between the culture-specific games played and the value perceptions of children in terms of the game-culture-value relationship. By conducting the present study in two different cultures, it was able to determine and compare children's games played in different cultures and to determine to what extent, if any, culture-specific games predict children's value perceptions. Briefly, the present study examined the value perceptions of Turkish and British children in terms of various variables and determined to what extent these perceptions are predicted by the traditional and videogames genres preferred by children. For this purpose, the following questions were formulated.

1. Do scores on the Moral Dilemma Stories Inventory of Turkish and British children differ significantly according to their gender, culture they live in, age level and time spent on games on average per day?
2. What are the traditional games and videogame genres preferred by Turkish and British children?
3. To what extent do the game genres preferred by Turkish and British children predict their value perceptions?

Method

Research Model

The present study was carried out utilizing a dominant case design, which is one of the mixed methods research designs. In dominant case design, qualitative and quantitative data are collected simultaneously, but one of the approaches (qualitative or quantitative) is the dominant/priority method that guides the study, while other approach acts as a supporter in the process (Johnson & Christensen, 2004). In the present study, the quantitative approach was predominantly used and the qualitative data

served as a supporter. Within the scope of the qualitative approach, the genres of traditional and videogames played by participants were determined by document analysis (document, video, picture etc.), and therefore it was possible to carry out quantitative analyses. In other words, the qualitative approach played a supportive role in the research process. The predictive correlational research design, one of the correlational designs, was used as part of quantitative approach.

Sample Groups

In the present study, in which children from two different cultures were included, two different groups were sampled. The sample groups consist of children aged 9-11 years (M_{age}= 9.93 years) studying in Turkey and England. A multi-stage sampling method was used to determine the groups. In the first stage, maximum diversity sampling method was adopted in order to ensure maximum diversity. Nottingham city council data council data (https://www.nottinghamcity.gov.uk/education-and-schools/) was used to determine the level of districts/regions. For primary schools in Ankara, the Turkish Statistical Institute (TUIK) data and the State Planning Organization Socio-Economic Development Rankin Surveys of the District were used. In this context, it was decided to focus on school in the middle socio-economic level. Detailed on the socio-economic region distribution of the primary schools included in the study are shown in Table 1.

Table 1. Distribution of Primary School by Socio-Economic Regions

Country/City	Primary School	Low	Medium-Low	Medium-High	High	Region
Turkey - Ankara	A	✓				Akyurt
	B				✓	Çankaya
	C		✓			Yenimahalle
	D			✓		Çankaya
England - Nottingham	E				✓	Bestwood
	F		✓			Beeston
	G	✓				Basford
	H			✓		Lenton

In the second phase, a criterion sample method was used. In this context, it was ensured that the values (honesty, tolerance, scientificness, helpfulness) to be measured were universal and included in the curriculum of all schools. Implementation studies were carried out in four primary schools in both cities that met the specified criteria. The sample of British schoolchildren (BS) comprised 243 students (53.9% female, M_{age}=10.13 years), and Turkish schoolchildren (TS) comprised 267 students (52.4% female, M_{age}=9.76 years). Children aged 10 years were predominant in both sample groups (BS=60.9%, TS=68.9%). In addition, since primary school in Turkey consists of four grades, the number of Turkish students aged 9 years (n=74) was higher than the number of British students (n=32) and since primary schools in England consist of six grades, the number of British students aged 11 years (n=63) was higher than the number of Turkish students (n=9). Detailed data concerning the sample groups are presented in Table 2.

Table 2. Detailed Information on Sample Groups

Sample Groups	Gender	9		10		11		Total	
		N	%	N	%	N	%	N	%
Turkey	Girl	44	31.4	88	62.9	8	5.7	140	100
	Boy	30	23.6	96	75.6	1	0.8	127	100
	Total	74	27.7	184	68.9	9	3.4	267	100
England	Girl	21	16.0	79	60.3	31	23.7	131	100
	Boy	11	9.8	69	61.6	32	28.6	112	100
	Total	32	13.2	148	60.9	63	25.9	243	100

Data Collection Tools

Research data were collected utilizing the "Personal Information Form", and the "Moral Dilemma Stories Inventory for Children" both developed in English and later adapted into Turkish. Detailed information on data collection tools is presented below.

Personal Information Form: This form, developed by the researchers, contained information about demographic variables such as age, gender, and class level of the participants. The form also included questions aiming to determine which videogames or traditional games were preferred by children in their daily lives and how much time children spent on these games in an average day.

Moral Dilemma Stories Inventory for Children: Kohlberg and his colleagues used moral dilemma storied to determine the moral level of individuals and tried to understand the reason(s) underlying the judgments by in-depth questioning through the moral judgment interview form (Colby et al., 1987a, 1987b) which includes open-ended questions. Similarly, in the present study, the "Moral Dilemma Stories Inventory for Children" developed by researchers, was used to determine the moral judgments of children toward the determined values. The inventory consists of moral dilemma stories (broken vase [honesty], stolen puppy [tolerance], more income [scientificness], and medical attention [helpfulness]) and a blank space where children could express their judgments. While creating the stories, care was taken not to include events specific to a particular culture. In order to ensure the suitability, intelligibility, and face validity of the created moral dilemma stories, they were examined by five field experts (a language specialist, two field specialists with related studies, a guidance and psychological counselling specialist, and an assessment and evaluation specialist) and after relevant corrections, the stories were read by two primary schoolteachers. After joint review made by the primary schoolteachers and the headteacher, it became apparent that the story written about the value of "helpfulness" may not be culturally appropriate. Therefore, this story was removed from the inventory and a new story scenario was developed and presented to the field experts and teachers again. After approval was received, the draft inventory was finalized. The scoring guideline developed by Colby et al. (1987a, 1987b) was used to evaluate the judgments about moral dilemma stories.

Adaptation Process

The "Moral Dilemma Stories Inventory for Children" was originally developed in English and then adapted into Turkish. In this context, standard translation, back translation and comparison procedures were applied. It was translated into Turkish by three bilingual experts who were fluent in both languages and the harmony between the translated text was examined. The three experts then created a common text by exchanging ideas. The created text was translated back into English and it was determined that it was compatible with the original text.

Assessing the Invariance of the Measurement Tools

Even if the measurement tools used for different cultures are similar in appearance, it is necessary to provide the invariance of the psychological characteristics they assess in accordance with the cultures (Milfont & Fischer, 2010). In order to determine the measurement invariance of the assessment tools developed in English and later adapted to Turkish, the "configural, metric, scalar and strict" invariances were tested. The results obtained can be seen in Figure 1 and Table 3.

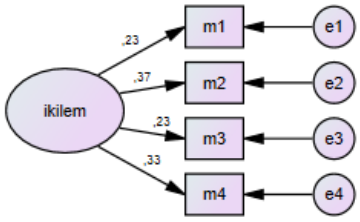

Figure 1. The Model of Factor Loadings of Moral Dilemma Stories Inventory

The difference of <0.01 between the CFI fit index in the model and the fit index of the models tested in the following stages was accepted as evidence of measurement invariance (Cheung & Rensvold, 2002). In this respect, the difference between the CFI value of the configural invariance model, which is the initial model, and the CFI value of the following models (metric, scalar, and strict) is less than 0.01 (Table 2), indicating that the inventories used (English - Turkish) provide measurement invariance.

Table 3. Moral Dilemma Stories Inventory Measurement Invariance Analysis Results

Model	NPAR	CMIN	DF	χ2 (sd)	$\Delta\chi$2 (sd)	CFI	ΔCFI	RMSEA
Configural	16	2.067	4	.517		1.000		.000
Metric	13	7.134	7	1.019	5.067 (3)*	.991	0.009	.006
Scalar	12	7.457	8	.932	5.390 (4)*	.994	0.006	.004
Strict	10	8.146	10	.814	6.069 (6)*	.998	0.002	.001

Intercoder Reliability

The answers given by the children participating in the study to the stories of moral dilemmas were coded by two different coders by training a second coder. Krippendorff's alpha (Kalpha) reliability coefficient was tested in order to determine whether the obtained data was reliable. Kaplha reliability coefficient takes a value between -1 and +1, and α = 0 means that there is no inter-coder reliability (Krippendorff, 2004). The Kripperndorff's Alpha (Kalpha) coefficients of the scoring made by two different coders varied between .912 and .971 for the Turkish sample, and between .914 and .986 for the British sample (Table 4). These results showed that there was a high agreement between the scoring of the coders for both sample groups (kalpha>.80).

Table 4. Intercoder Reliability Analysis Results on Moral Dilemma Stories

Dilemma Stories	Krippendorff's Alpha (Kalpha)		95% Confidence Interval Lower Limit – Upper Limit		Number of Encoders
	Turkish Sample	British Sample	Turkish Sample	British Sample	
Broken vase	.912	.915	.794 - .987	.852 - .963	2
Stolen puppy	.956	.914	.909 - .985	.830 - .975	
More income	.948	.986	.885 - .991	.977 - .993	
Medical attention	.971	.955	.948 - .989	.926 - .978	

Scoring Moral Dilemma Stories

In order to evaluate the judgments regarding moral dilemma stories, the scoring instructions developed by Colby et al. (1987a, 1987b) were used. Although this scoring method is quite detailed, the main points are summarized here. The scoring process begins with the assignment of some basic coding for student judgments. The process is discussed together with the example explanation.

1. First, it is determined which of the moral levels Kohlberg developed student judgment corresponds to. For example, regarding the dilemma of the broken vase, since a student's judgment of "*I would tell the teacher because if he/she finds out somehow, he/she would be very angry with us both*", shows the tendency of "obedience and punishment orientation", it means that the student has stated a first level judgment and it is coded as "1". Again, the statement "*I wouldn't tell the teacher because I know that my friend would do the same for me*" indicates the "self-interest orientation", which is coded as "2".
2. If all the moral judgments about the dilemma story represent a single level or if the number of judgments corresponding to a level exceeds 25% of the total number of judgments, that level is the answer score and is assigned as the "pure stage" (like 1 or 2).

3. If the number of judgments corresponding to two or more levels exceeds 25% of the total number of judgments, the level with the higher frequency is designated as the major (dominant) stage, and the one with the lower frequency is designated as the minor (recessive) stage. In this case, the secondary stage is shown in parentheses. For example, assuming that the student response includes both the third (interpersonal accord and conformity orientation) and the second stage (self-interested orientation), and the third stage judgment frequency is higher, the coding would be coded "3(2)".
4. If the frequencies of two or more levels in the student's judgment exceed 25% of the total number of judgments and are equal, the transition stage is assigned without entering it as a major or minor stage and the coding would be coded 2/3, 1/2/3.
5. If more than two stages exceed 25% of the total number of judgments and if one stage is major and the frequency of the other stages is equal, it would coded 2 (3/4).
6. If a moral judgment corresponds to two different stages and does not completely match any of them, the judgment is assigned a guess score (such as G2, G1/3).
7. If the judgment does not match any stage, no stage assignment is made.

Calculation of Moral Maturity Score

The following score weights were used to calculate the universal moral maturity score.

Scoring the chosen issue: The mean by the chosen issue is whether the value that is assessed with the dilemma situation is chosen or not. For example, if the student chose to help regarding the "medical attention" dilemma story, it means that he/she made a value-oriented judgment. The value-oriented judgment is evaluated over 3 points. For example, if the student judgment is pure stage (1, 2), 3 points are assigned. If the assigned stage is major–minor weight [3(2)], 2 points of 3 points are assigned for major stage and 1 point for minor stage. If the major stage is one, the minor has two, and the transitional stage [1(2/3)], 2 points are assigned again for the major stage, and the remaining one point is divided among the minor stages and 0.5 points are assigned to each. If the judgment regarding the dilemma correspond to transition stage (2/3), 1.5 points are assigned for each.

Scoring the non-chosen issue: If the student does not choose the aimed value in the dilemma story, he/she would have put forward a non-chosen issue. Regarding the example above, it is preferring no to help. In this case, student judgments are evaluated over 2 points. If the judgment is pure stage, it gets 2 points, if it is transition stage, each stage gets 1 point. If the judgment includes major and minor stages, the major stage is assigned 1.33 points, while the minor stage is assigned 0.66 point.

Guess Score: If the guess stage is pure, it is scored over 1 point. If the guess stage contains two stages, 0.5 points are assigned for each stage whether it is transitional or major-minor stage.

Example Scoring

Let's assume that a participant's judgments about moral dilemma stories are as follows.

Broken vase (chosen): 3	Stolen Pulpy (chosen): 2(3)
More Income (non-chosen): 2/4	Medical attention (non-chosen): G1

From this point of view:

1. Stage: Gets **1 point** due to it is pure stage and assigned as guess in the "*Medical Attention*" dilemma.

2. Stage: Gets 2 points from the "*Stolen Puppy*" because it is a chosen-issue and the dominant stage, while it gets 1 point from the "*More Income*" dilemma because it is non-chosen judgment and a transitional stage. Therefore, a total of **3 points** are assigned.

3. Stage: Gets 3 points from the "*Broken Vase*" dilemma as it is chosen-issue and pure stage. Gets 1 point from the "Stolen Puppy" due to it is chosen issue but not major stage. **4 points** are assigned in total.

4. Stage: Gets **1 point** from the "More Income" dilemma due to it is non-chosen issue and transitional stage. As a result, the participant gets **9 points** in total from the moral dilemma stories.

Determining the Universal Moral Maturity Stage

The stage with the highest rate is assigned as major stage. In the example above, the major (dominant) stage of the participant is determined as the "**third stage**" since the third stage has the highest rate (4/9). If there is a different stage(s) that stage score is higher than 25% of the total score, that stage is assigned as a minor stage. Since the participant's second stage score (3 points) is higher than 25% (2,25 points) of the total score (9 points), the "**second stage**" is assigned as minor stage. It is not reflected in the universal moral maturity stage of the participant due to other stages not providing the sufficiency. Therefore, the universal moral maturity stage of the participant with such a score is determined as 3(2). This result shows that the participant is predominantly in "İnterpersonal accord and conformity orientation" and recessively "self-interest orientation".

Calculating the Universal Moral Maturity Score

In order to calculate the universal moral maturity scores of the participants, first each level is multiplied by its own score, and the total score is obtained by adding the obtained scores. If we continue with the example above:

I. Stage: 1 x 1 = 1 point II. Stage: 2 x 3 = 6 III. Stage: 3 x 4 = 12 IV. Stage: 4 x 1 = 4

Then, the total score obtained from the multiplications (23) is divided by the sum of the level scores (9) and multiplied by 100 to determine the participant's universal moral maturity score: 23 ÷ 9 = 2.55 × 100 = 255.

Pilot Study

Pilot testing of the draft Moral Dilemma Stories Inventory for children was conducted with eight fifth-grade students who were studying in a public school in Nottingham and did not take part in the main study implementation. First, necessary permissions were obtained (this part was discussed in detail during the implementation process) and a consent form was sent to the parents. The pilot study was conducted with limited number of participants due to both the small size of students in the class and working only the children who had parental permission. After children completed the inventories, each student was interviewed separately and they were questioned as to whether there was any situation that they had difficulty with or difficulty in understanding. After the positive feedback from the students, the inventories were examined and it was found that they could be answered by the children. The pre-trial study of Turkish version of the inventory was carried out with 15 fourth-year students who were studying in Ankara and were not included in the main study implementation. Similar processes to those conducted at the primary school in Nottingham were carried out, and it was concluded that the scenarios were understandable and answerable by the Turkish children.

Procedure

The data collection process of the study lasted for two academic years. Firstly, data were collected in primary schools in Nottingham, England, in the 2016-2017 academic year. Ethics committee approval was obtained from the institution of the researchers (Nottingham Trent University). Afterwards, the "Disclosure and Barring Permission Form" was applied for to question the criminal background of the researchers, and after the approval, the school administrations were contacted. Meetings were held with school administrators who were interested in the study, the schedule was determined, and the implementations were carried out in line with the schedule. Data were collected from Turkish children who were studying in primary schools in Ankara during the 2017-2018 academic year. After having the permission from "Provincial Directorate of National Education" the details of the study were mentioned to the primary school administrations. A work schedule was created with school

administrators who wanted to take part in the study, and implementations were carried out accordingly.

To carry out the data collection process more efficiently and to minimize the errors arising from the process, groups of 7-10 students were studied. However, if the students had a busy schedule or the class size was relatively small (13-15 children), the implementation was carried out with the participation of the whole class. The implementations were carried out in appropriate environments (practice classroom, classrooms, library, etc.) allocated by the school administration and with the support of the assistant teacher or classroom teacher assigned by the administration. Before competing the inventories, the knowledge of the students about "videogames and traditional games" was questioned, and necessary explanations were made. After the students completed the Personal Information Form, the Moral Dilemma Stories Inventory was introduced. Students were asked to read the dilemma stories carefully and to state their judgments about the story in the relevant field and be as detailed as possible. The implementation process took 1-2 hours for each group, depending on the reading, comprehension and writing skills of the participants. Students who had difficulties in completing the inventories were supported by the researcher and assistant teacher.

Data Analysis

The data obtained from the children participating in the study were subjected to quantitative and qualitative analysis. A descriptive analysis technique was used in the classification of videogames and traditional games preferred by children. Here, the game genres were determined by scanning relevant studies (Apperley, 2006; Arsenault, 2009; Braun, Stopfer, Müller, Beutel, & Egloff, 2016; Elliott, Golub, Ream, & Dunlap, 2012). Then, through document review, features of the games were determined by examining documents, websites, or videos about the games, one by one, and then the videogames were placed in the relevant genres. To perform quantitative analysis, SPSS 21 and AMOS 22 package programs were used. Before the analysis, a normality test was performed, and it was determined that the data were normally distributed. Then, frequency calculation, *t*-test, one-way analysis of variance (ANOVA), and standard multiple regression analyses were performed using the SPSS program. Before the regression analysis, game types (predictive variables) were redefined as dummy variables. Cohen's *d* statistics were used to calculate the effect size of the obtained significances. The AMOS program was used for the measurement invariance analysis, which was carried out to show that the measurement tools applied in two different cultures assessed the same construct.

Results

Results on the examination of children's Moral Dilemma Stories Inventory scores by variable Gender and Culture: An independent sample t-test was performed to test whether the Moral Dilemma Stories Inventory scores of Turkish and British children differed significantly by gender and culture. The results indicated that, in both cultures, the girls scores were significantly higher than the boys' scores [TS=t(265) = 3.03, $p<0.01$; BS t(241) = 3.62, $p<0.001$]. Considering cultural comparison, it was found that both Turkish girls' scores (M = 36.79) were significantly higher than British girls' scores (M = 33.88) and Turkish boys' scores (M = 34.16) were higher than British boys' scores (M = 30.51). The effect size of the obtained significances was calculated, and it was determined that the effect value of the significance obtained in all sample groups was weak ($d<0.2$) (Kılıç, 2014). Details are presented in Table 5.

Table 5. t-Test Results of Moral Dilemma Inventory Scores by Gender and Culture

Sample Groups	Gender	N	Mean	SD	*t*	*p*	Cohen's *d*
Turkish	Girl	140	36.79	6.29	3.03	**.003**	.037
	Boy	127	34.16	7.83			
British	Girl	131	33.88	7.45	3.62	**.000**	.046
	Boy	112	30.51	6.94			
Whole	Girl (Turkish)	140	36.79	6.29	3.48	**.001**	.055
	Girl (British)	131	33.88	7.45			
	Boy (Turkish)	127	34.16	7.83	3.78	**.000**	.049
	Boy (British)	112	30.51	6.94			

Age Level and Average Time Spent on Games per Day: The results of the analysis showed that the age variable did not significantly differentiated the value perceptions of both Turkish (F(2, 265)= 0.43, p>.05) and British children (F(2, 240)= 2.59, p>.05). In addition, it was determined that the Moral Dilemma Stories Inventory scores of the children who played the videogames for an average an hour per day (M = 35.48) were significantly higher than those scores who played these games for an average five hours or more per day (M = 31.00) (F(6, 503) = 2.75, p<.05). The Moral Dilemma Stories Inventory scores of the children did not differ significantly in terms of an average time spent on traditional games per day (F(5, 504) = 1.17, p>.05). Details of analysis are shown in Table 6.

Table 6. Value Perceptions of Participating Groups by Age and Time Spent on Games

Variables		Sample Groups	N	Mean	SD	F	*p*
Age	9		74	35.03	6.99		
	10	Turkish	184	35.67	7.34	0.43	.649
	11		9	37.11	5.45		
	9		32	30.13	8.49		
	10	British	148	32.21	7.40	2.59	.077
	11		63	33.73	6.59		
Average time spent on videogames per day (minutes)	None		30	32.90	7.66		
	0-59[a]		172	35.48	7.19		
	60-119		132	34.29	6.97		
	120-179	Whole	81	32.99	7.92	2.75	**.012 (a –b)**
	180-239		44	32.08	8.32		
	240 – 299		26	33.53	7.44		
	300 +[b]		25	31.00	6.76		
Average time spent on traditional games per day (minutes)	0-59		113	33.23	7.78		
	60-119		144	34.53	7.80		
	120-179	Whole	117	33.70	7.16	1.17	.323
	180-239		59	33.28	7.19		
	240 – 299		33	36.26	7.25		
	300 +[b]		44	34.45	6.56		

[a] represents the students whose average time spent on videogames was up to one hour per day.
[b] represents the students whose average time spent on videogames was 300 minutes and above per day.

Results on the Game Preferences of Turkish and British Children

Videogame Preferences: When the videogame preferences of Turkish and British children were compared, videogames that were primarily produced for entertainment were mostly preferred by both sample groups, whereas videogames that were primarily produced for educational or serious purposes

were preferred the least. British children (22%) preferred electronic-sports videogames more than Turkish children (13%), while Turkish children (13%) preferred casual videogames more than British counterparts (7%). The videogame preferences of the sample groups are shown in detail in Figure 2 and Figure 3. Compared by gender, videogames primarily produced for entertainment, were the most preferred game genre by both boys and girls, whereas videogames primarily produced for electronic-sports videogames were the second most popular for boys, and casual (mini) videogames were the second most popular for girls.

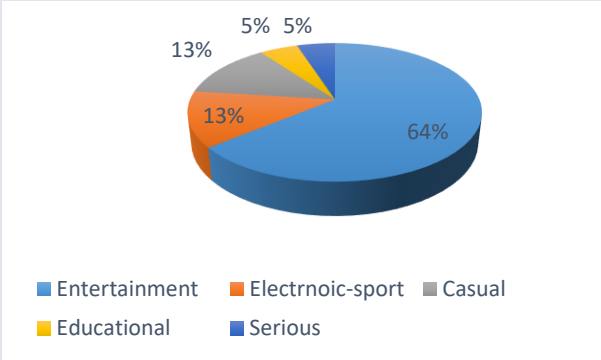

Figure 2. Distribution of Videogame Genres Preferred by Turkish Children

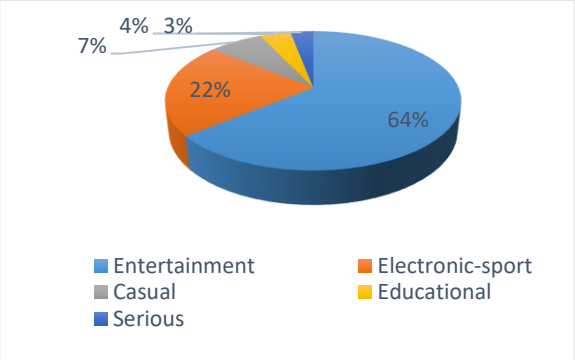

Figure 3. Distribution of Videogame Genres Preferred by British Children

Traditional Game Preferences: Turkish children participating in the study stated that they mostly preferred action (e.g., dodgeball, hide and seek, etc.) (46%) and sports (25%) traditional game genres, while British children similarly stated that they mostly preferred sports (50%) and action (9%) traditional game genres. Traditional game genres such as racing, stone and *Lego*-puzzle were preferred by Turkish children the least. Racing, fighting, and rope games were preferred by British children the least. Details are shown in Figure 4 and Figure 5.

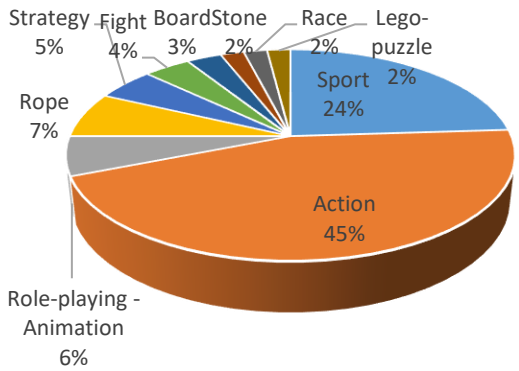

Figure 4. Distribution of Traditional Game Genres Preferred by Turkish Children

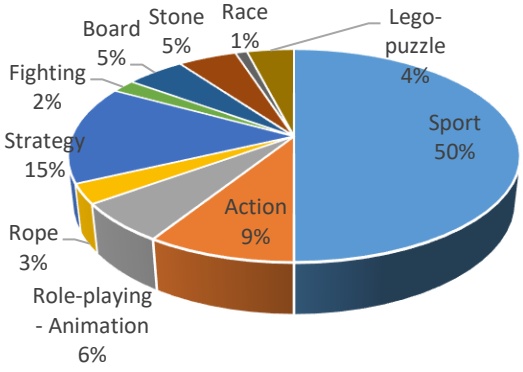

Figure 5. Distribution of Traditional Game Genres Preferred by British Children

Results on extent to which game genres predict children's value perceptions

Multiple regression analysis was performed to determine the extent to which the game genres preferred by Turkish and British children predicted their value perceptions. Results indicated that there was significant relationship between videogame genres by scenarios (R=.325, p<.001), by primary production purpose (R=.253, p<.001), and traditional game genres (R=.284, p<.001) and children's value perceptions. Videogame genres such as action-adventure (β= -.134) and role-playing (β= -.109) negatively predicted children's value perceptions while simulation (β=.163) and puzzle (β = .098) videogame genres predicted children's value perceptions positively. Also, it was found that videogames primarily produced for entertainment (β = -.096) negatively predicted children's value perceptions, while videogames primarily produced for educational (β = .139) and serious (β = .115) predicted

children's value perceptions positively. On the other hand, traditional games such as action (β = .264) and sports (β = .116) significantly and positively predicted children's value perceptions and racing games predicted children's value perceptions negatively (β = -.89). Details are shown in Table 7.

Table 7. Multiple Regression Analysis Results on prediction of value perception regarding game genres

	Variables	B	St. Er B	β	*t*	R	R2	F	*p*
Videogame genres by scenarios	**1.** (Constant)	34,720	,540		64,344				
	2. Action	-,036	,293	-,006	-,122				
	3. Action-adventure	-1,069	,379	**-,134****	-2,820				
	4. Role playing	-1,037	,420	**-,109***	-2,470				
	5. Simulation	2,612	,698	**,163*****	3,742	0.300	0.090	6.203	0.000
	6. Strategy	,748	,600	,055	1,247				
	7. Race	,109	,617	,008	,176				
	8. Sport	-,639	,457	-,065	-1,400				
	9. Puzzle	1,782	,794	**,098***	2,245				
Videogame genres by primarily production purpose	**1.** (Constant)	34.410	.583		59.069				
	2. Entertainment	-.320	.149	**-.096***	-2.147				
	3. Educational	2.374	.752	**.139****	3.157	0.253	0.064	6.899	0.000
	4. Serious	1.942	.741	**.115****	2.621				
	5. Casual	.188	.471	.018	.399				
	6. Electronic sport	-.518	.301	-.078	-1.718				
Traditional game genres	**1.** (Constant)	30.931	.697		44.402				
	2. Role playing – Animation	.657	.611	.048	1.076				
	3. Sport	.550	.213	**.116****	2.586				
	4. Race	-2.578	1.261	**-.089***	-2.044				
	5. Rope	.461	.729	.028	.633	0.284	0.081	4.390	0.000
	6. Action	1.443	.253	**.264*****	5.705				
	7. Fighting	-1.030	.887	-.051	-1.162				
	8. Lego – Puzzle	1.252	.899	.062	1.393				
	9. Strategy	.505	.404	.057	1.251				
	10. Stone	.256	.767	.014	.334				
	11. Board	.443	.813	.024	.545				

*p < 0.05; **p < 0.01; ***p < 0.001

Discussion and Conclusion

The present study examined the value perceptions of Turkish and British children in terms of various variables and the extent to which these perceptions were predicted by the traditional games and videogames genres preferred by children. The results of the study showed that the value perception scores of the girls in both sample groups (Turkish and British) were significantly higher than the scores of the boys. When the related studies are examined, it is seen that different results were obtained. There are many studies reporting that the moral development scores of girls and boys do not differ significantly (Abanoz, 2020; Akandere, Baştuğ, & Güler, 2009; Arfaoui, Damak-Ayadi, Ghram, & Bouchekoua, 2016; Kabaday & Aladağ, 2010; Meriç & Özyürek, 2018). However, in the study carried out by Özen (2016) with Turkish adolescents (12-13 years old), it was found that the scores of the girls in the control group for the "value of respect" were significantly higher than the scores of the boys. In the study conducted by Javed, Kausar, and Khan (2014) with Pakistani children aged 9-12 years old, it was reported that girls tend to forgive more than boys and have a better attitude towards forgiveness. Murray-Close, Crick, and Galotti (2006) reported that 4th and 5th grade American girls found physical

aggression more wrong and harmful than boys. In a study conducted by Bouhnik and Mor (2014) with the participation of 1048 adolescents, it was reported that male adolescents resort to immoral behaviours such as cyberbullying, plagiarism and imitation more often than female adolescents and that female adolescents make more human judgments than males. Although Gilligan (1993) claims that Kohlberg's moral dilemma stories are male-centred and females are disadvantaged, studies show that females can achieve higher scores in moral dilemma stories. All these findings show that there is no consensus on the moral development of children in a specific gender group, and therefore moral development cannot be explained by gender alone.

When the value perception scores of girls and boys from two different cultures were compared, it was found that the scores of Turkish children were significantly higher than the scores of British children among both girls and boys. Different results have been obtained in cross-cultural comparison studies. In a study conducted by Bouhmama (1984), the moral development levels of Algerian and British children (14-15 years old) were compared and it was found that the moral maturity scores of Algerian children were significantly higher than the scores of British children. In another cross-cultural comparison conducted by Baek (2002), it was found that the moral judgment scores of Korean and British children did not differ significantly. Again, Shimizu, Senzaki, and Cowell (2021) found that Japanese and European-American children (3-4 years old) did not show significant differences in terms of moral sensitivities. Snarey, Reimer, and Kohlberg (1985), compared the moral development levels of Israeli (Kibutz), Turkish, and American children, adolescents, and young adults (aged 10 to 28 years). It was found that the moral maturity levels of the Israeli participants were higher than those of the Turkish and American. In the study conducted by Li, Hou, Zhu, and Tomasello (2020), it was reported that 3-year-old Chinese children were able to consider the intention and context of the content when making moral judgments, whereas German children could not demonstrate this skill until the age of 5 years. Similarly, Lim, Peterson, De Rosnay, and Slaughter (2020), reported that Singaporean children aged 6-12 years showed higher intention sensitivity when making moral judgments compared to their Australian peers. Researchers think that the upbringing of Singaporean children in a typical eastern social culture, and the Australian children's upbringing in a western individual society may be effective in partly explaining these results. Lo, Fu, Lee, and Cameron (2020) supportively reported that the moral judgments of Chinese children (7-17 years old) reflect societal cultural values, whereas Euro-Canadian children make judgments more individually. However, studies show that the qualities of children's moral judgments cannot be explained only by the collectivist or individualistic structures of the societies they grew up in. For example, in study conducted with 8–16 years old children, Shohoudi Mojdehi, Leduc, Shohoudi Mojdehi, and Talwar (2019) reported that Iranian children who grew up in a more social culture perceived cyberbullying events less negatively than their Canadian peers. Similarly, Chaparro, Kim, Fernández, and Malti (2013) found that Chilean children have more sympathy for moral violations than their Swiss peers, whereas Swiss children use more moral reasoning abilities against violations. Ferguson, Willis, and Tilley (2001) concluded that the moral reasoning abilities among Northern Irish children aged 10-11 years are better than the abilities of Nigerian children. Researchers posit that Nigerian children being in a society where religious principles and external authority are obeyed without question may be effective in explaining these results. All these results show that many cultural differences can affect children's choices and moral judgments. There is no doubt that qualitative studies need to be conducted to examine these factors in-depth to contribute to a better interpretation of these findings.

It was found that age level did not significantly differentiate the value perceptions of both Turkish and British children. The fact that the age levels of the children (9-11 years) were close to each other and that the low number of 11-year-old Turkish children (n=9) may have affected these results. Similarly, Cameron, Lau, Fu, and Lee (2012) reported that the value perceptions of children whose age levels were close to each other (7-11 years old) do not differ significantly. On the other hand, Day and Naedts (1995) reported that the moral judgment scores of Belgian adolescents and adults with an age difference differ according to their age levels. Participants in the 21-24-year age group achieved the

highest score, followed by the 18-20-year age group and 15-17-year age group participants, respectively. Participants in the 12-14-year age group were the group with the lowest average score.

It was found that the value perceptions of children who played videogames an average of up to one hour per day were significantly higher than those who played an average of 5 hours or more per day. No other study has investigated the relationship between the time spent on videogames and the perception of value of children, but this result can be interpreted in two ways. First, it can be suggested that children with weak moral development appear to spend more time on videogames. Secondly, spending long periods of time playing videogames (5 hours or more per day) may have led to the weakening of children's relationships with their peers, families, and social connections, resulting in a negative impact on their perceptions of value. Because spending a long time playing videogames (especially with violent content) is associated with addiction and social problems as well as disrupting peer and family relationships (Anderson, 2004; Bavelier et al., 2011; Cummings & Vandewater, 2007; Griffiths, 2010b). Moreover, the "child-adult interaction" within the family is very important in transferring values to children, and the stronger this interaction, the more effective and permanent the values to be conveyed (Berkowitz, 2011; Kohlberg & Hersh, 1977; Özsarı & Öğretir-Özçelik, 2020; Smetana, 2015). In addition, many researchers state that having strong relationships in their social environments from an early age helps individuals experience moral values, help personalize them and help develop their own ideas about their moral responsibilities (Binfet, 2004; Comunian & Gielen, 2006; MacNaughton & Hughes, 2007; Şahin & Ersoy, 2012). However, at this point, the videogame genres children played should also be considered. The effects of playing violent videogames and an educational game for a long time on children's moral development may be different. Therefore, studies determining how the time spent on videogames and game genres have an effect together on children's value perceptions will be useful in filling this gap.

While videogames that are primarily produced for entertainment were the most preferred game genres by both sample groups, videogames that are primarily produced for skill acquisition (serious games) or educational videogames were the least preferred genres. In addition, while boys mostly preferred videogames primarily produced for entertainment and electronic-sports, girls stated that they played entertainment and casual games the most. Similar results have been obtained in studies conducted in different cultures. De Pasquale, Chiappedi, Sciacca, Martinelli, and Hichy (2021) reported that Italian primary schoolchildren mostly prefer to play videogames primarily produced for entertainment and electronic-sports purposes. Funk (1993) reported that the videogames primarily produced for entertainment and electronic-sports purposes were preferred the most by American adolescents, and the videogames primarily produced for educational purposes the least. Taylan, Kara, and Durğun (2017) found that Turkish adolescents mostly preferred to play videogames primarily produced for entertainment and that they preferred puzzle/intelligence and simulation games the least. As a result, it can be concluded that cultural differences do not appear to change children's digital game preferences, and digital games, whose primary production purpose is entertainment are the most preferred game genres by children. In addition, gender is an important variable affecting children's digital game preferences.

Turkish children mostly preferred traditional games in the action genre and secondly sports games, while British children mostly preferred traditional games in the sports genre and secondly action games. These results show that children in both samples prefer to play traditional games where they can be active and British children are fonder of sports games than Turkish children. Similarly, Duda, Fox, Biddle, and Armstrong (1992) reported that British children (especially boys) found sports games quite entertaining and interesting. Researchers state that school culture has an important role in British children's orientation to sports games (Duda et al., 1992; Goodman, Mackett, & Paskins, 2011). Directing students to sports-type activities and games intensively by making educational environments suitable

for this may have an important place in children gaining such habits. On the other hand, Balci and Ahi (2017) reported that Turkish children mostly prefer sports and action-based traditional games such as football, hide-and-seek, cycling, and playing in the park. These results are similar to the findings of the present study.

It was also found that action-adventure and role-playing videogames predicted children's value perceptions negatively, while simulation and puzzle games predicted them positively. Lin et al. (2017) reported that *Resident Evil*, a violent video game in the genre of action-adventure was associated with negative emotions such as "fear, anxiety, anger, disgust and disappointment" in students, and that fear and anger were the most intense negative emotions. Clarke, Rouffaer, and Sénéchaud (2012) stated that in the new generation violent videogames in role-playing genres, players fight their enemies in a war environment without thinking about the consequences and without rules and laws, and that this situation negatively affects the basic values of the players such as respect, human rights, and the right to life. On the other hand, one of the puzzle videogames (*Super Word Searching Contest*) was evaluated by two expert groups consisting of game researchers and professional game developers in a study conducted by Hong, Cheng, Hwang, Lee, and Chang (2009). The study reported that the puzzle game helped develop many cognitive and psychomotor skills, and that the players could experience affective values such as cooperation, belonging, fairness, and social interaction through the game. The results of the present study show that the findings are consistent with the existing information in the literature.

It was found that while videogames primarily produced for entertainment negatively predicted the value perceptions of children, educational and serious videogames predicted them positively. Considering the primary production purpose of role-playing and action-adventure videogames is entertainment, and puzzle and simulation games are frequently used in order to train players and provide them with some skills, the research findings support each other. Similarly, Reynolds (2002) in his study examining the *Grand Theft Auto (GTA)* videogame, which is primarily produced for entertainment, found that game content include sexism, violence, aggression, and crime and therefore had a negative effect on the moral development of the players. It was reported in a study conducted by Menendez-Ferreira et al. (2019), the football videogame developed by researchers improves the "respect" value of children aged 8-9 and 12-13. In the present study, it was found that the videogames primarily produced for electronic-sports did not significantly predict children's perceptions of value. However, the fact that the values examined in the present study (honesty, tolerance, scientific and helpfulness) did not include "respect" may have been a factor in influencing the findings. These findings can be a guide for parents and teachers. It may be more beneficial for children's moral development if parents keep their children away from especially violent and horror videogames content and direct them more towards videogames primarily produced for education or gain skills. Teachers, on the other hand, can benefit from educational games both for teaching and moral value transfer.

Traditional games in which children are active predicted their value perceptions positively. The fact that being active has a critical role for the development of cognitive, affective and psychomotor skills of children (Charles, Abdullah, Musa, & Kosni, 2017; Kovačević & Opić, 2014) does not make these results surprising. When the related studies are examined, it is seen that similar findings have been obtained. In the study by Yeniasır and Gökbulut (2019), it was reported that traditional games in which children can be active such as hide and seek, blind man's bluff and dodgeball help children gain values such as respect, kindness, cooperation, being brave, love, honesty, forgiveness, respect for the environment, patience, and obeying the rules. In another study, it was found that students who engage in sports have a higher moral judgment level than those who do not (Akandere et al., 2009). Movement-based traditional games include many social values such as empathy, honesty, cooperation, and sharing, and these values automatically turn into social awareness behaviours among children (Wijaya & Pujihartati, 2018). Furió, González-Gancedo, Juan, Seguí, and Rando (2013) concluded that augmented reality simulation games and action-based traditional games contributed to the tolerance and solidarity value perceptions among 8-10-year-old children. All these results show that it would be a correct approach to direct children to traditional games that will enable them to be active both during

school and out-of-school times. On the other hand, racing games that require individual competition negatively predicted the value perceptions of children. Similarly, Lavega et al. (2014) found that losing players experienced lower negative emotional intensity in non-competitive traditional games in a study conducted with Spanish university students.

The present study indicated that it was not possible to generalize that the moral development of children in a specific gender group (girl/boy) is better. However, the cultural factors in which children grow up can affect their moral development positively or negatively. Videogames primarily produced for entertainment were preferred more by both Turkish and English children, traditional games in the action genre (dodgeball, playing tag, etc.) were preferred more by Turkish children, and traditional games in sports (football, cricket, etc.) were preferred more by British children. Traditional game types in which children are active predicted their value perceptions positively, and videogames in genre of action-adventure and role-playing predicted children's value perceptions negatively.

Limitations

The present study has some main limitations as well as strengths. First of all, the need to evaluate all videogames and traditional game genres preferred by the participant groups made it impossible to conduct the study in an experimental design. Even if it is determined in which direction (positive or negative) and at what level (strong, weak, moderate) the game genres preferred by children predict their value perceptions, it will be useful to compare these results with the findings obtained by experimental studies. Since the present study was conducted in two different cultures, the values that appeal to both cultures and included in the curricula of the schools where the study was conducted could be examined. On the other hand, the children could not give sufficient feedback to the variables such as 'parent education level' and 'socio-economic level', which are thought to affect the time children spend on digital and traditional games, due to the age group they are in. The inability to include these variables in the analysis is another limitation of the study.

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Appendix 1. Example Judgment Toward Moral Dilemma Stories

MORAL DILEMMA STORIES

The Broken Vase

Your closest friend is playing with a ball in the classroom during the break time although it is not allowed. While playing, the ball accidentally hit a vase on the teacher's desk and it shattered. There is no one in the classroom except the two of you. He is so worried about breaking the rules because it may cause him to be punished and may stop the teacher liking him. He kindly asks you that help him clean the pieces of broken vase and you pretend as if nothing happened. On the other hand, you know that, if you tell the teacher or someone else, you may lose your friendship with him. What would you do in this case? Why?

I would not tell a teacher because.....
•they would be upset
•it is just a vase.
•friend are important
•I would get called a tell tail

O arkadaşımın yardım ederim fakat onun bu yaptığını öğretmene söylerim. Çünkü yarının bazı [illegible] onları bana veya bir başka arkadaşımın üzerine atabilir, atarsa olay daha da büyür. Öğretmene söylerim çünkü öğretmenimiz ve arkadaşlarımızla adaletli bir şekilde sınıfta top oynanmaması konusunda bir karar alınmış ve kural konulmuş. En yakın arkadaşım olsa bile adalete duyarlı olmak zorunda olduğum için arkadaşımı öğretmene söylerim. [illegible]

Çalınan Yavru Köpek

Furkan ve Ali yakın arkadaştır. İkisi de aynı mahallede yaşamakta ve beraber çokça vakit geçirmektedirler. Bir gün, Furkan'ın ailesi ona sevimli bir yavru köpek hediye eder. Furkan köpeği çok sevmiştir ve artık vaktini yavru köpekle geçirdiği için arkadaşını ihmal etmeye başlar. Bu durum Ali'nin yavru köpeği kıskanmasına neden olur. Ali köpeğin Furkan ile olan dostluklarını bozduğunu düşünmektedir. Ona göre eğer köpek ortadan kaybolursa, yine eskisi gibi yakın arkadaş olabileceklerdir. Bir gün, Furkan okuldan döndüğünde köpeğini bulamaz. Köpeğin olabileceği her yere bakar ancak nafile. Köpek ortalarda yoktur. Ailesiyle birlikte haftalarca köpeği aramalarına rağmen bulamazlar. Artık Furkan köpeğinden umudunu kesmiş ve eskisi gibi Ali ile oynamaya başlamıştır. Ali, arkadaşlığını geri kazandığı için mutludur; ancak köpeğin kaybolmasına neden olduğu için de kendisini suçlu hissetmektedir. Bir gün, suçluluk hissine daha fazla dayanamaz ve Furkan'a yavru köpeği kendisinin çaldığını itiraf eder. Köpeğin geri gelmesine imkân yoktur. Çünkü Ali onu çok uzakta yaşayan bir akrabasına vermiştir. Ali, köpeğin güvende olduğundan ve ona iyi bakıldığından emindir. Furkan'a köpeği çok kıskandığını ve arkadaşlığını geri kazanmak için böyle bir şey yaptığını söyler. Ali, yaptığından çok pişman olmuştur ve arkadaşından kendisini affetmesini ister. Sizce Furkan Ali'yi affetmeli mi? Niçin?

Evet onu affederdim. Ancak bir şartım var derim. Uzaktaki kuzenimle görüştüğüm ilk fırsatta köpeğimi getir. Ama üzülme hem köpeğimle oynayacağım hem de seninle derim. Ali köpeğimi kaçırınca hem köpekle hem de Ali ile oynarım.

David should forgive Tommy because if he does Tommy might try to get the puppy back and all three of them could play together also David should forgive Tommy because all he wanted to do was get his attention Tommy never wanted to hurt David's feelings. David should also forgive Tommy because now he's still got Tommy and he he didnt forgive Tommy he would have guilt and maybe regret his decsion because they are close friends.

Daha Fazla Kazanç

Suna öğretmen fen bilgisi öğretmenidir. İşinde çok başarılı olan Suna öğretmen aynı zamanda iyi bir bilim insanıdır. Öğretmenliğin yanında, topluma faydalı olabilecek önemli bilimsel çalışmalar yürütmektedir. Çalıştığı şehirde iki defa "yılın öğretmeni" seçilmiş ve artık herkes tarafından tanınmaktadır. Bir gün, Suna öğretmen yeni bir iş teklifi alır. Eğer teklifi kabul ederse, aylık maaşı üç kat daha fazla olacaktır. Ancak bu durumda çok sevdiği öğretmenliği bırakmak zorunda kalacak ve de bilimsel çalışmalarını daha fazla yürütemeyecektir. Diğer taraftan yeni işi kendisine ve ailesine daha iyi bir yaşam imkânı sunacaktır. Sence Suna öğretmen iş teklifini kabul etmeli mi? Niçin?

İş teklifini kabul etmemelidir çünkü ülkemize yeni teknolojiler ve para kazandırabilir ve ondan daha fazla maaş alır. Ve ülkemize katkı yapar.

yes because if it pays more than three times as much as a science teacher she probably gt be able to get a lambo and a big house so she would have an amazing wife

Medical Attention

Maria has worked for a long time in a financial company. She is always appreciated by her co-workers and is hard working. One day, her boss tells her that he is very pleased with her performance and that he would like her to be promoted to be his deputy. To get the new job she will need to attend an important interview and deliver a presentation to the company's directors. Maria prepares for her presentation every night for a month. On the day of her presentation she witnesses a car accident while she is driving. Without hesitation, she stops her car near the crashed car. She sees that one of driver's legs is seriously injured, bleeding badly and the driver is unconscious. Without immediate first aid, he may not walk properly again. Maria has had first aid training but if she gives the man medical attention, she will be late for her job interview and will miss the opportunity of being promoted in her job. She calls the emergency services and asks for an ambulance immediately. Should Maria give the injured man medical attention or should she go to her job interview? Why?

I think she should go beacuase she might get alot of money because if she doesent go she might be late and get fired from her job And might not get alot of money and she might be poor.

Yaralı olan sürücüye ilk yardım yapmalıdır çünkü eğer toplantıya gidersse adamın kanamasında çokça hastanede bacağı kesilebilir. Eğer [illegible] Meryem'in de ilk yardım eğitimi aldığı için arabasında eğer ilk yardım malzemeleri varsa hemen o kaza yapmış olan sürücüye ilk yardım uygulayıp adamın ayağının kesilmesine yardım eden. Adamın bacağı hastaneye gittiklerinde kesilmesse adam [illegible] Meryem'e büyük bir borca [illegible] katlanır. Meryem de o günün kahramanı olur.