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COLOR PREFERENCES OF CHILDREN IN TERMS OF GENDER DIFFERENCES

ABSTRACT

This study was intended to investigate the difference between color usage of boys and girls in their drawings and to test this for increasing ages. Around this general purpose it was expected that color usage of boys would decrease as they got older, on the other hand, there won't be a difference for girls. The present study was also intended to reveal whether the subject of the drawings affected the color usage. The study was implemented with 108 boys, 80 girls, totally 188 students from 1st, 3rd and 6th grades of an elementary school in Turkey. The students were given a piece of A4 size paper, a standard pencil, a box of crayons with 6 different colors. They were asked to make three drawings: one was on a subject they themselves wanted, the other subject was drawing a house and finally to draw a tree. They were told to draw however they wanted to. Then the numbers of colors in all the drawings were counted. The results supported the hypothesis that color usage of boys decreased as they got older, on the other hand, there was no a difference for girls.

Keywords: Gender, Gender Differences, Color Preferences, Emotional Responses, Child

CİNSİYET FARKLILIKLARINA GÖRE ÇOCUKLARIN RENK TERCİHLERİ

ÖZET

Bu çalışma kız ve erkek çocukların çizimlerinde kullandıkları renk sayısını ve bunun artan yaşla birlikte nasıl değiştiğini inceleme amacı ile gerçekleştirilmiştir. Çalışmaya 1, 3 ve 6.sınıfta öğrenim gören 188 ilköğretim öğrencisi oluşturmuştur. Öğrencilere bir parça A4 boyutu kağıt, standart bir kurşun kalem, altı farklı renkte kalemle dolu bir kutu verilmiş ve üç çizim yapmaları istenmiştir. Çalışmada kurşun kalem dışında tek renk kullanılması renksiz, iki ve daha fazla renk kullanılması ise renkli resim olarak kabul edilmiştir. Bulgular erkek çocukların yaşları ilerledikçe kullandıkları renk sayısının azalacağı, kız çocuklarda ise bir değişiklik olmayacağı biçimdeki denenceyi destekler görünmektedir. Bu denence renk kullanımındaki çeşitliliğin coşkusal tepkileri yansıttığı varsayımı üzerine inşa edilmiştir. Kullanılan renk sayısının azlığı ise ketlenmiş coşkusal tepkilerin işareti olarak kabul edilmektedir.

Anahtar sözcükler: Cinsiyet, Cinsiyet Farklılıkları, Renk Tercihleri, Coşkusal Tepkiler, Çocuk



1. INTRODUCTION (GİRİŞ)

Color is not just the perception of the stimulus of the light. In fact it is a multidimensional and complicated kind of perception. When we think about colors for a study of art, we all agree that it is a very special style of expression. Every color is unique as musical notes. Every note has a sound of its own, but when they are arranged in a special way, they produce songs which stimulate several emotions of people changing from happiness to sadness. This is also true for colors. They exist by themselves, but when their amount, organization and relationship with each other are varied; their effect on our emotions also varies.

The information that we take from the environment is visual up to 80 percent. Our interaction with colors is realized at this great extent by means of natural and constructed environment. Colors don't only give knowledge about the environment; they also affect our emotions. We know that colors are interrelated with the mood and the feelings of the people. In other words, sometimes colors affect the feelings of individuals and sometimes their moods affect their color preferences. Here, while talking about this interrelation, we also have to talk about subjective color preferences of individuals which are perceived as personality characteristics (Khouw, 2004).

When the relevant literature is investigated, two different points of view are reported. Some researchers accepted that color preferences of individuals were totally innate emotional reactions and some others thought that this was only the result of learning. In fact it is possible that colors have different meanings for every person. This is probably due to different hereditary personality traits, past experiences, emotional tendencies, perception conditions and learned symbolic meanings etc. (Sasaki, 1991). That is why we tend to have definite colors when we choose a dress, furniture or a household.

The relationship between the colors and the psychology has always interested people. In spite of this, color psychology is not a well specified field. It is very difficult to study on the psychological dimensions of colors, because there are individual differences among people and besides, the psychological reactions of a person differ from time to time. In spite of these individual differences, it is possible to talk about universal and typical human reactions to colors. According to traditional psychology, for instance in psychoanalytic approach, colors are interpreted in terms of body functions (for example, red is identified with blood). Jungian approach brings a more eclectic interpretation. According to them the responses of people to colors can not be understood from one point of view. It is more complicated (Sasaki, 1991).

While going through talking about universal reactions to colors, we see that the red side of the spectrum is called as the "hot side" and the blue-green side is called as "cold side". Faber Birren (1934) identified these color groups with two emotional situations: The hot colors (red and its neighbors) activated and stimulated and the cold colors (blue, green and purple) inactivated and tranquilized (As cited in Sasaki, 1991). Akashi (1986) reported that red was related to being alive and active, sometimes it was even related to aggression. On the other hand, cold colors are correlated with passivity and static conditions. In other words warmth is identified with communicating with others; coldness is identified with autism. This situation is valid also physically and physiologically. Red stimulates autonomic nervous system and causes to raise the tension, muscular activity causes greater frequency in eye blinks; On the other hand, green and blue slow down physiological functions and lessen the tension. It was hypothesized that the neurotransmitters in the eye even without seeing



carried the information of light to the brain. Hypothalamus and in turn pituitary gland evaluate this information and cause a secrete hormone which affects cognition, energy level and the mood of the person (Sam and Wohlfarth, 1982). In spite of these general tendencies, as Faber Birren says, "Warm colors may calm one person and excite another: cool colors may stimulate one person and calm another:" (As cited in Adler, 1999).

Colors are used by children as a kind of individual expression. They are easily attracted by colored objects. That's why the objects for children are produced as colorful. The names of colors are among the first learned words while children learn to speak in every culture. During preschool time, red seems to be the most preferred color. As children grow up and their cognitive development improves, they gain more emotional control. So their interest for red (which is identified with strong emotions like aggression, hate or love) decreases and the interest to cold colors increases. When children start to draw and paint objects like a house, tree and man, the colors are not the real colors of these objects. For instance, a human face can be painted as green and hair can be purple as the child freely imagines them. Around eight-nine years, they still continue to use imaginative colors rather than realistic colors (Lark and Horowitz, 1960). After these ages, realism starts to appear and continue to increase as the child gets older (Hobbs and Rush, 1997).

Matchotka (1966) studied students from elementary school and revealed similar results. Color and subject were used according to the subjective preferences of children when they were eight years old. As they got older, realistic preferences started to appear. In addition to this, Matchotka reported that younger children's drawings were more subjective and spontaneous, but the drawings of children aged 12 seemed to be carrying global characteristics (As cited in Brown and Freeman, 1993).

In a similar way Gardner (1970) investigated the importance of color, theme and realism for children. As an interesting result, children chose paintings because of their subjective "nice colors" and "different designs". Color was most important factor for the choices of smaller children for choosing a painting.

While writing their book "Painting and Personality", Alschuller and Hattwick (1947) worked with 15 children for two years who were three to four years old. They obviously decided on the relation of color choice and emotional tendencies. In children's drawings, blue was correlated with drives about control. That means, blue was used by people who had more internal control and lesser emotional responses. Although orange was tended to be correlated with positive emotions like friendship and sympathy, and with children who had fantasies and imaginative realism. Black was associated with severe fear and anxiety. As a special result, they reported that the frequent use of blue and black was correlated with the suppression of feelings. Green symbolized a balanced and quiet personality (As cited in Sasaki, 1991). In another study, Asari used a method similar to Alschuller and Hatwick and found similar results. The most interesting finding was about purple. This color was associated with unhappiness feelings in relation with sickness and death.

Of course it is not the just the color, but all other properties of a painting give clues about the personality characteristics, the unconscious (or conscious) thoughts, his/her self-image, family dynamics of a person who draws it (Oster and Gould, 1987). Children's drawings were frequently being used as projective tests to understand the personality traits, needs and fears of the children. Neale and Rasal (1993), evaluated 17 studies which used some projective tests



like "Kinetic Family Drawing", "Draw a Man", "A House-A Tree-A Person" and resulted that only one or two of these studies used color as an evaluation criterion. The criteria they used were empty spaces, emphasized objects, content etc. O'Hare and Cook (1983) divided the art studies of children into five categories: Form, planning and deciding, special properties, aesthetic qualities and finally art qualities. There wasn't any category for color. The literature about the projective drawings of children has been collected for 50 years but it is clear that the use of color according to age and gender has not been investigated sufficiently. Therefore, there have been no clear findings about the relationship between color preference and sex.

The study of Guilford (1934) was the first example for these researches. According to the results of the study; people saw a balance with similar or contradictory colors. In other words, very small and very big differences in hue rather than medium differences were creating nice feelings and this tendency was more frequent among women (As cited in Khouw, 2004). 1940 Eysenck made a review for color studies related to age and sex. According to this Dorcus (1926) found that yellow was more effective on man than woman. St. George (1938) reported that blue was more easily differentiated by man. In a very old study, Jastrow (1897) concluded that men preferred blue to red and women red to blue. In Eysenck's (1940) study, it was revealed that yellow was preferred to orange by woman and orange was preferred to yellow by men. When this study was replicated by Birren (1952), again men preferred orange to yellow; but women put orange to the end of their list (As cited in Khouw, 2004).

Greene (1955) asked college students to define 21 color sticks. The results showed that women recognized detailed colors better than men. Similarly, Guilford and Smith (1959) proposed that men liked neutral colors like white, black and gray; but women's color choices were more various and they preferred more colorful objects. Thomas, Curtis and Bolton (1978) interviewed with 72 people from Nepal and asked them to write all the colors they could think of. The results were significantly different for men and women. Women wrote more color names than men. It was also observed that women were wearing more colorful clothes in Nepal. As an interesting finding, Radeloff (1990) reported that "Having a favorite color" was a feature related to women (As cited in Khouw, 2004).

Richard and Ross (1967) studied drawings of 1200 children who were 5 to 14 years of age according to criteria like number of colors, the space of drawings, and use of unrealistic colors. The results showed significant differences in terms of age and gender. Girls used colors more than boys (As cited in Richard and Ross, 1983).

In another study, Richard and Ross (1967) asked 200 children to draw a cat and a child and transformed used colors into numerical data. All the measurements revealed that according to color use, age and gender created significant differences. Younger children used more colors and the numbers of colors decreased as they got older and this was true especially for boys. Additionally they were using grey mostly (As cited in Richard and Ross, 1983).

Rubenstein and Rubil (1984) concluded that gender differences came into view since 1st grade elementary school and it stayed on (As cited in Boyatzis, 1999). Boyatzis (1999) gave empty papers and color crayons to 49 preschool children and asked them to draw whatever they wanted. It was found that girls preferred light and boys dark colors. Even girls even four and half years of age drew circular lines, whereas boys drew angular lines. Boys chose their themes as



supernatural events or machines (for instance helicopter). Girls' themes were generally home, animals and heart figures.

According to a finding by Anes, Metraux and Walker (1971), 10-16 years of girls used more colors than boys. The greatest difference between boys and girls was found at those of 14 and 15 years (As cited in Milne and Greenway, 1999). Building on the study of Ames, Metraux and Walker (1971), Milne and Greenway (1999) studied the hypothesis that "Males and females differed in their use of color in drawings." In this study made by means of Rorschach Inkblot Test, girls were found to be giving more color responses than boys at every age from 10 to 16. The results of Milne and Greenway's study showed that the use of color stayed as the same for all age groups of girls, but there was a significant difference in the use of color across age groups of boys. The boys younger than 10 years of age tended to use colors but boys over this age tended not to use colors. These results can be interpreted that males develop emotional inhibitions before puberty while the emotional expression of females seems to stay the same.

There are several theoretical explanations about gender differences for art approach (Cox, 1983; as cited in Boyatsiz, 1999). Most of them emphasize the differences between socializations of boys and girls. Recent studies have indicated that children are also affected by peer groups by means of learning and modeling. Another approach proposed in terms of cognitive theory said that sex schemata started to develop and being organized since early childhood (Basow, 1992; as cited in Boyatsiz, 1999). As sex schemata clarified, the socialization about sexuality got gradually exaggerated. Almost in every field of life including color choice, sexuality creates content. Finally, if we think in terms of psychoanalytical theory, superego may inhibit the color use of boys as they get older. So they tend to use cold colors rather than warm colors.

When the related studies about children's drawings are considered, it can be concluded that the younger children use more colors in their paintings. As age level increases, boys use fewer numbers of colors while they paint. Investigating the artistic choices of children can be a way of understanding the sexual socialization of children. The difference between the color preferences of boys and girls may lead to better understanding of cultural sex roles and revising our approach to children. If the difference is correlated with age, it means that the reason for this difference is socialization process rather than hereditary factors.

In Turkey, men are expected to be cool, authoritarian and distant. They are not tolerated to show emotional reactions related to love and fun, but they easily reflect their aggression. The traditional role of men suggests that men should not talk and laugh too much. If they do so, they are accused of behaving "like a woman" (which is culturally not a good thing). There may still be some fathers who are proud of saying that "I kiss and show affection to my children only when they are sleeping." In accordance with this role, they prefer cool colors as black, brown, dark blue, grey and white. A traditional adult Turkish man never wears colorful skirts for instance red or flower designed. A famous Turkish saying may be the best way of illustrating Turkish cultural role of men: "Men don't cry."

2. RESEARCH SIGNIFICANCE (ÇALIŞMANIN ÖNEMİ)

The purpose of this study was to investigate the difference between color usage of boys and girls in their drawings and to understand if there was a difference as the age level increased. Around this general purpose it was hypothesized that color usage of boys would decrease as they got older. On the other hand, there



wouldn't be a difference for girls. The present study was also intended to reveal whether the subject of the drawing affected the color usage. These subjects were: 1) Drawing on a free subject that was expected to be related to the free associations of individuals (Oster and Gould, 1987), 2) Drawing a house was thought to reflect the family dynamics of individuals, 3) Drawing a tree was supposed to be in relation with a person's self perception (Milne and Greenway, 1999).

3. METHOD (YÖNTEM)

3.1. Study Group (Çalışma Grubu)

The study was realized with 108 boys and 80 girls, totally 188 students from 1st (28 girls, 36 boys) 2nd (32 girls, 32 boys) and 6th (20 girls, 40 boys) grades of elementary school. In Turkey children start elementary school when they turn to age 6. In 3rd grade, they are nine years old and in 6th grade, they are about 12 years old. All subjects in this study were students of Sabiha Köstem Elementary School in Bursa, Turkey. This school was accepted to have students as middle-low socio-economic status (SES) according to the data taken from Bursa National Education Authority. SES didn't examine them separately. In order to reach the participants a written request was made to the Local Education Authority in Bursa, which is depended upon Ministry of National Education in Ankara before the study. This request was investigated by the ethics committee in local education authority and then was granted. At the last step the school principals let the researcher for reaching the participants.

3.2. Procedure (Süreç)

The students from 1st, 2nd and 3rd grades were given a piece of A4 size papers, a standard pencil, a box of crayons with six colors during a regular class hour. They were asked to make three drawings: one was on a subject they themselves would choose, the other was about drawing a house and finally they were asked to draw a tree. When the students asked which pencils they would use, they were told to draw however they wanted to. Then, the number of colors in all the drawings were counted and noted.

4. RESULTS (BULGULAR)

When only one color except pencil was used in drawing, it was accepted as "uncolored". When at least two and more colors were used, this drawing was defined as "colored". The distributions obtained for boys and girls were given below.

Table 1. The crosstab for the paintings of 1st, 3rd and 6th grade girls as "colored" or "uncolored" for the drawings they made on the subject they chose

(Tablo 1: 1., 3. ve 6. sınıflarındaki kız öğrencilerin kendi seçtikleri bir konuda çizdikleri "renkli" ve "renksiz" resimlerle ilgili çapraz tablo)

Girls N=80	Colored		Uncolored	
	f	%	f	%
1 st .Grade	28	100	-	-
3 rd .Grade	30	94	2	6
6 th .Grade	20	100	-	-
Total	78		2	

$$[\chi^2 (2, N=80) = 3, 07692307692308, p > .05]$$



Table I showed that almost all the girls made their paintings as colored (except 2 girls out of 80). According to the chi square value it is not possible to talk about any significant association among the classes.

Table 2. The crosstab for the paintings of 1st, 3rd and 6th grade girls as "colored" or "uncolored" for their drawings of a house (Tablo 2. 1., 3. ve 6. sınıflarındaki kız öğrencilerin bir ev çizimi konusundaki "renkli" ve "renksiz" resimleriyle ilgili çapraz tablo)

Girls	Colored		Uncolored	
	f	%	f	%
1 st .Grade	28	100	0	0
3 rd .Grade	32	100	0	0
6 th .Grade	20	100	0	0
Total	80		0	

Table II showed that all the girls made their paintings as colored. There was not any association among the classes, although chi square calculation was impossible statistically.

Table 3. The crosstab for the paintings of 1st, 3rd and 6th grade girls as "colored" or "uncolored" for their drawings of a tree (Tablo 3. 1, 3. ve 6. sınıflarındaki kız öğrencilerin bir ağaç çizimi konusundaki "renkli" ve "renksiz" resimleriyle ilgili çapraz tablo)

Girls	Colored		Uncolored	
	f	%	f	%
1 st .Grade	28	100	0	0
3 rd .Grade	32	100	0	0
6 th .Grade	20	100	0	0
Total	80		0	

Table III was the same as table II. This means that there was not any significant association among the grades of girls while painting a tree, although chi square calculation was impossible statistically.

Table 4. The Crosstab for the Paintings of 1st, 3rd and 6th Grade Boys as "Colored" or "Uncolored" for the Drawings They Made on the Subject They Chose

(Tablo 4. 1., 3. ve 6. sınıflarındaki erkek öğrencilerin kendi seçtikleri bir konuda çizdikleri "renkli" ve "renksiz" resimlerle ilgili çapraz tablo)

Boys	Colored		Uncolored	
	f	%	f	%
1 st .Grade	22	61	14	39
3 rd .Grade	12	37	20	63
6 th .Grade	14	35	26	65
Total	48		60	

[X² (2, N=108) =6.12, p <.05]

According to Table IV, there was a significant difference among the paintings of 1st, 3rd and 6th grade of boys. Boys made uncolored paintings as they got older.



Table 5. The crosstab for the paintings of 1st, 3rd and 6th grade boys as "colored" or "uncolored" for their drawings of a house (Tablo 5. 1., 3. ve 6. sınıflarındaki erkek öğrencilerin bir ev çizimi konusundaki "renkli" ve "renksiz" resimleriyle ilgili çapraz tablo)

Boys	Colored		Uncolored		Total	
	f	%	f	%	f	%
1 st .Grade	34	94	2	6	36	100
3 rd .Grade	22	69	10	31	32	100
6 th .Grade	28	70	12	30	40	100
Total	82		24		108	

[χ^2 (2, N=108) =9.08712945133837, p <.025]

Table V pointed out that the color usage of boys significantly decreased as their grades improved.

Table 6. The crosstab for the paintings of 1st, 3rd and 6th grade boys as "colored" or "uncolored" for their drawings of a tree (Tablo 6. 1., 3. ve 6. sınıflarındaki erkek öğrencilerin bir ağaç çizimi konusundaki "renkli" ve "renksiz" resimleriyle ilgili çapraz tablo)

Boys	Colored		Uncolored		Total	
	f	%	f	%	f	%
1 st .Grade	34	94	2	6	36	100
3 rd .Grade	4	12	28	88	32	100
6 th .Grade	8	20	32	80	40	100
Total	46		62		108	

[χ^2 (2, N=108) =59, 786255259467, p <.001]

According to Table VI boys' color usage changed as they got older. In terms of chi square values it can be talked about significant associations across the 1st, 3rd and 6th grades in the direction of "uncolored" paintings.

5. DISCUSSION (TARTIŞMA)

In this study the independent of color usage for 1st, 3rd and 6th grade students was tested in terms of gender differences. Separate analysis was performed for boys and girls. The results supported the hypothesis that color usage of boys would decrease as they got older; on the other hand, there would not be a difference for girls. This hypothesis was built upon the assumption that the variation of color usage reflected the emotional responses. The frequency of color usage thought to be interrelated with showing emotional responses. If the frequency was lower, this would be accepted as a sign of inhibited emotional responses.

In the study, when only one color out of pencils was used in their paintings, it was accepted as "uncolored"; when at least two and more colors were used, this painting was accepted as "colored". Therefore, the results revealed that almost all girls at every grade and for three different themes made "colored" paintings. Only two girls from 3rd grade (6 percent of 1st grades) out of totally 80 girls made "uncolored" paintings on the subject they chose. Thereby, we can accept that in all grades girls stayed the same and they continued to make colored paintings. On the other hand, there were significant differences across 1st, 3rd and 6th grade boys on every theme they painted. These results were consistent with the results of Milne and Greenway's study (1999). 33 boys and 28 girls between four and 14



year's old made drawings on different themes in this study. A picture was accepted as "color" if only grey lead pencil was used. If two and more colors were used, it was accepted as "no color". For girls, color usage did not vary significantly across three age groups ($p > .05$) (one group's mean age was less than was 6.56; the 2nd group' mean age was between 6.56-10.63 and the 3rd group' was above 10.63). For boys, there was a significant difference across age groups for free drawing, drawing of the self, house drawing, tree drawing and drawing a person ($p < .05$).

Actually the difference seemed to be clear between 1st and 3rd grades. There was not any significant difference between 3rd and 6th grades ($p > .05$). There was a significant and sometimes dramatic decrease in the color use of 3rd grade boys in comparison with 1st grade boys. In a similar way, Milne and Greenway (1999) found that the boys at the age of 10, 6 and older tended not to use color in their paintings. In the present study 3rd grade students were at nine years of age. This conclusion suggests that males start to inhibit emotional responses just prior to puberty. Around these ages, superego starts to become a part of the individual. This explanation can be accepted for Turkey too. Male role is very dominant and clearly defined one. It is transferred by almost all the members of the society to the child and then around 9 years of age, it seems to appear.

The results seemed to be related to what was drawn. While they painted the subject they chose which was supposed to reflect the free associations of the students, 22 boys (61 percent) made colored and 14 boys (39 percent) uncolored drawings from 1st graders, whereas 12 boys (37 percent) made colored and 20 boys (63 percent) made uncolored paintings from 3rd graders. 6th grade had very similar results (35 percent versus 65 percent). Even 1st grade boys seemed to inhibit their emotional responses while drawing on a free subject. Majority of 3rd and 6th grade boys made uncolored paintings. We can conclude that boys generally inhibit their emotional responses about their free associations and this tendency gets bigger as they get older.

About the paintings of a house thought to reflect the family relationships, 34 boys (94 percent) from 1st grade made colored paintings and only 2 boys (6 percent) made uncolored, but at 3rd grade, 22 (69 percent) boys made colored paintings and 10 boys (31 percent) made uncolored. 6th grade had parallel results (70 percent versus 30 percent). While painting a house, almost all 1st grade boys made colored drawings and majority of 3rd and 6th grade boys did colored drawings on this subject. This result may be interpreted as inhibitions of emotional responses were not so much strong for their family issues. They displayed emotional responses more freely about their family issues.

The results related to the paintings of a tree which were supposed to reflect the self-perception of the person revealed that 34 (96 percent) boys made colored drawings and 2 boys (6 percent) uncolored drawings. At 3rd grade a dramatic decrease was found. Only four boys (12 percent) versus 28 boys (88 percent) made colored paintings. For 6th graders, this was even better in the direction of exhibiting emotions. Eight boys (20 percent) made colored and 32 boys (80 percent) made uncolored drawings. This may suggest that males inhibited their emotional responses related to themselves. This result was not parallel to the Milne and Greenway's (1999) study. For drawings of a free picture, a house, a person and a tree, approximately equal number of boys made colored and uncolored drawings but for the drawings of themselves 13 males in the middle age group (10,6 years old on average) made color drawings and 4 boys painted uncolored. They concluded that males inhibited their emotional



responses for the issues distant from themselves. This study was carried out in Australia too and it has to be noted that the subjects of the study were children who regularly saw child psychologist. In addition, in Turkey male role probably brings with it emotional inhibitions related to the person himself.

As individuals get older as a result of internalization of social norms, a decrease in emotional responses is expected. In Turkey, this situation is generally thought to be related with males. Probably this is the result of cultural transfer. The children start to receive messages in the direction of gender roles of the society. As time goes by, these messages become a part of personality traits. The traditional male role expects males not show frequent and intensive emotional reactions (for instance laughing, crying or speaking excessively). In fact, in Turkish culture men generally don't talk about themselves either.

Firstly, this study was carried out to pay attention to the differences between emotional developments of boys and girls. At the same time, it was intended to suggest the responsibility of cultural gender roles on the emotional inhibition of boys. No doubt emotional inhibition will lead to some psychic problems and behavioral disturbances. Almost all theories about psychological health talk about the discharging emotions. These problems in long term will create problems for their relationships as well.

Secondly, if analyzing color usage may become a way for understanding and interpreting the feelings and behaviors of boys and girls, it can be an easier and cheaper test for identification and diagnosis of these problems. Certainly many more study results are needed to reach to such a generalization.

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