THE RELATIONSHIP OF CYBER BULLYING TO EMPATHY, GENDER, TRADITIONAL BULLYING, INTERNET USE AND ADULT MONITORING

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ABSTRACT

THE RELATIONSHIP OF CYBER BULLYING TO EMPATHY, GENDER, TRADITIONAL BULLYING, INTERNET USE AND ADULT MONITORING

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The present study aimed to investigate the cyber bullying and empathy relationship with respect to gender by utilizing the traditional bullying and empathy relationship. Additionally, the predictive role of traditional bullying, frequency use of information and communication tools, and adult monitoring of the Internet use on cyber bullying was examined.

The sample consisted of 717 adolescents (411 females, 302 males) with a mean age of 16.83 (*SD*=1.46). Cyber Bullying Inventory (Erdur-Baker & Kavşut, 2007) was revised, Traditional Bullying Questionnaire was developed and Basic Empathy Scale (Jolliffe & Farrington, 2006) was adapted into Turkish and utilized in the present study.

Results of the study pointed that 55.2% of the adolescents reported to engage in traditional bullying and 47.6% of them reported to involve in cyber bullying. Males' scores were higher than females' for both traditional and cyber bullying. Hierarchical multiple regression analyses indicated that traditional bullying and frequent use of ICT predicted cyber bullying well. Finally, results of multiple regression analyses indicated that gender was a mediating factor in the negative relationship between empathy and bullying. In other words, females who have higher empathy scores reported to have less frequent traditional and cyber bullying experience. Males who have lower empathy levels reported to have more frequent traditional and cyber bullying experience. However, gender did not moderate the negative relationship between empathy and bullying. Findings were discussed in the light of the literature.

Keywords: Cyber bullying, traditional bullying, affective empathy, cognitive empathy, adolescents.

ÖZ

SİBER ZORBALIĞIN EMPATİ, TOPLUMSAL CİNSİYET, GELENEKSEL ZORBALIK, INTERNET KULLANIMI VE YETİŞKİN DENETİMİYLE İLİŞKİSİ

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Bu çalışmada geleneksel zorbalık ve empati ilişkisinden yola çıkarak siber zorbalık ve empati düzeyi arasındaki ilişkinin toplumsal cinsiyete bağlı olarak incelenmesi amaçlanmaktadır. Ek olarak, siber zorbalığı yordamada geleneksel zorbalığın, bilgi ve iletişim araçları kullanım sıklığının ve internet kullanımında aile denetiminin rolü araştırılmıştır.

Çalışmaya yaş ortalaması 16.83 (*SD*=1.46) olan 717 (411 kız ve 302 erkek) kişi katılmıştır. Araştırma kapsamında Siber Zorbalık Envanteri (Erdur-Baker & Kavşut, 2007) yenilenmiş, Geleneksel Zorbalık Ölçeği geliştirilmiş ve Temel Empati Ölçeği'nin (Jolliffe & Farrington, 2006) Türkçe uyarlaması yapılmış ve kullanılmıştır.

Araştırma sonuçları, katılımcıların %55.2'sinin geleneksel zorbalık yaptığını, %47.6'sının ise siber zorbalık yaptığını göstermektedir. Erkek katılımcıların hem geleneksel zorbalık deneyiminde hem de siber zorbalık deneyiminde kız katılımcılardan daha yüksek puanlar aldığı ortaya çıkmaktadır. Hiyerarşik çoklu regresyon analizi sonuçları, geleneksel zorbalık deneyiminin ve bilgi ve iletişim araçlarını sık kullanmanın siber zorbalık deneyimini yormada başarılı değişkenler olduğuna işaret etmektedir. Son olarak, çoklu regresyon analizi sonuçlarına göre toplumsal cinsiyet empati düzeyi ve zorbalık arasında aracılık eden bir değişkendir. Bir başka deyişle, empati düzeyleri yüksek olan kızlar daha az geleneksel ve siber zorbalık yaptıklarını rapor etmişlerdir. Empati düzeyi düşük olan erkekler ise daha sık geleneksel ve siber zorbalık yaptıklarını rapor etmişlerdir. Buna rağmen toplumsal cinsiyetin empati ve zorbalık arasındaki ters yönlü ilişkide moderatör bir değişken olmadığı görülmektedir. Bulgular alan yazını ışığında tartışılmıştır.

Anahtar Kelimeler: Siber zorbalık, geleneksel zorbalık, duygusal empati, bilişsel empati, ergen.

To my brother, Gökhan Topcu

&

To my parents, Fatma Topcu

and

Erol Topcu

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CHAPTER I

INTRODUCTION

1.1. Background of the Study

The main aim of the study was to examine the relationship between cyber bullying experience and empathy level of adolescents with regard to gender. In order to obtain descriptive characteristics of cyber bullies, cyber bullying prevalence and its relation to age and gender was investigated for the present sample. Besides, for understanding other characteristics of a cyber bully, the predictive role of traditional bullying, the usage frequency of information and communication tools (ICT) and adult monitoring of the Internet use on cyber bullying was examined. All through the study, since cyber bullying literature is not wide enough and the traditional bullying and cyber bullying are found to be related (Li, 2006; Ybarra & Mitchell, 2004a), traditional bullying literature was utilized. Therefore, the present study included a part about traditional bullying.

The prominent researcher, Olweus (1993, p.197) provided the most common definition of traditional bullying as "a student is being bullied or victimized when he or she is exposed, repeatedly and overtime, to negative actions on the part of one or more other students" and distinguished bullying as physical (e.g., overt assault), verbal (e.g., gossiping) and indirect/relational (e.g., social isolation). As a result of bullying, victims

experience some negative situations such as depression (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000), psychosomatic symptoms and anxiety (Natvig, Albrektsen, & Qvarnstrom, 2001), social ineffectiveness, and interpersonal difficulties (Craig, 1998).

While the scientists and practitioners of education were trying to help victims and prevent traditional bullying, a new type of bullying appears to be emerging especially among adolescents as the rate of ICT usage increases. This new type of bullying is called as cyber bullying and defined as "an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who can not easily defend him or herself" (Smith, Mandavi, Carvalho, & Tippett, 2005, p. 6). Cyber bullying can be considered as type of indirect/relational aggression (Keith & Martin, 2005) which is performed by covert behaviors such as gossiping, spreading rumors in anonymity and social exclusion (Loudin, Loukas, & Robinson, 2003).

Cyber bullying may take several forms based on the usage characteristics of ICT. According to Smith et al. (2005) types of cyber bullying are text message bullying, picture/video clip bullying (via mobile phone cameras), phone call bullying, e-mail bullying, chat room bullying, bullying through instant messaging, bullying through web sites. More specifically, sending hurtful SMS or e-mails, insulting people in the chat room, slandering people by using fake photos of them on the Internet or shooting embarrassing photos of people by a mobile phone without their permission could be listed as acts of cyber bullying. After the occurrence of the cyber bullying, bullying in the physical world was named as traditional bullying in order to differentiate face to face bullying from cyber bullying (e.g., Patchin & Hinduja, 2006).

So far, current literature consist of studies that examines prevalence rate (e.g., Li, 2005; Smith et al, 2005), relationships of some demographic variables to cyber bullying such as gender (e.g., Vandebosch, Van Cleemput, Mortelmans & Walrave, 2006), age (e.g., Kowalski & Limber, 2007), socioeconomic status (e.g., Syts, 2004), frequency use of ICT (e.g., Finn, 2004). In addition, the relationship of cyber bullying to moral approval of bullying, perceived school climate and perceived peer support (Williams & Guerra, 2007) and the role of adult monitoring of the Internet use (Mason, 2008; Vandebosch et al., 2006) was investigated.

The prevalence rates of cyber bullying examined in different countries (Canada, USA, Belgium, England and Turkey) and prevalence rates differed between 4.1% and 62% (Kowalski & Limber, 2007; Li, 2006). Although the prevalence rates of cyber bullying seemed to be lower than traditional bullying in some studies, it still worth further examination because there are people who are suffering from consequences of cyber bullying as a victim. The victims of cyber bullying reported some psychological problems such as feeling disappointed, anger, sadness, isolation, helplessness, depression, anxiety, family and peer problems (Hinduja & Patchin, 2006).

Researchers failed to report consistent results about gender difference. According to some researchers males cyber bullied others more than females (e.g., Vandebosh et al., 2006), and some other researchers claimed that there was not any significant difference between males and females in terms of cyber bullying experience (e.g., Syts, 2004). Additionally, there is a third group of researchers hypothesized that females' cyber bullying experience exceed males' scores because cyber bullying was considered as relational type of bullying which was performed by females frequently (Keith & Martin, 2005).

The age distribution of cyber bullying was investigated as well. Williams and Guerra (2007) claimed that cyber bullying peaked at the middle school ages. On the other hand, Kowalski and Limber (2007) investigated the age and gender interaction on cyber bullying experience and found a significant interaction effect which indicated that for females, as the age increases cyber bullying experience decreases whereas, for males as the age increases cyber bullying experience increases. According to Syts (2004) and Topcu, Erdur-Baker, and Çapa-Aydın (2007, in print) who tested the relationship between socioeconomic status (SES) and cyber bullying there was an indirect relationship between cyber bullying and SES. Additionally, the relationship between cyber bullying and frequency use of ICT was investigated and cyber bullying and frequent usage of ICT was found related (Erdur-Baker & Kavşut, 2007; Li, 2005). The results of the conducted studies indicated that as the usage frequency of ICT increases, the likelihood of being a cyber bully increases.

In addition to the demographic characteristics, the relationship of cyber bullying to other related factors was examined. One of those studies was conducted by Williams and Guerra (2007) and examined how well moral acceptability of bullying, perceived school climate and perceived peer support predicted cyber bullying. All three predictors were found as significant predictors of cyber bullying. More specifically, adolescents who perceive cyber bullying as appropriate, reported to engage in cyber bullying more frequently, whereas, adolescents who perceive the school as trusting, fair, and pleasant reported to engage in cyber bullying less than others. In the same way, adolescents who perceive their peers as trustworthy, caring and helpful reported to engage in cyber bullying less than others.

Adult monitoring of the Internet use was another issue which was researched by previous researchers. Tracking the adolescents' behaviors in

cyber space is important not only for preventing them to become cyber victim, but also preventing them becoming cyber bully. According to Mason (2008), the most frequently suggested monitoring behaviors can be listed as locating the computer in a public room instead of letting the child using the computer in his or her own room, installing filtering programs into the child's computer, controlling the computer of the child by means of history tool in the computer, talking with the child about the ethical and responsible computer and the Internet use. In order to monitor adolescents' behavior in cyber space, parents, teachers and other school personnel need to be computer literate. However, according to King, Walpole, and Lamon (2007) most of the adolescents report their parents as computer illiterate. In the present study, adolescents' perception of parental computer literacy and adult monitoring of the Internet use at home and at school will be investigated. So far, the current cyber bullying literature was summarized; however, the literature was still lacking the studies investigating the underlying mechanisms of cyber bullying.

One of the factors which were considered influencing cyber bullying as an underlying mechanisms was empathy. Empathy level of the adolescents was suggested as an important factor influencing cyber bullying experience of adolescents (Mckenna, 2007). In cyber space due to the lack of face to face communication, facial cues are not available (Munro, 2002) and one who cyber bully others can not perceive the emotions of the victim after being cyber bullied him or her and may not perceive the consequences of his or her acts. However, according to the current knowledge, there is not an empirical study examining cyber bullying and empathy. Since there is not a previously conducted study on cyber bullying and empathy relationship; and there are studies providing empirical evidence for the relationship between cyber bullying and traditional bullying (Li, 2006; Ybarra & Mitchell, 2004a) traditional bullying and empathy literature has been utilized. The role of

empathy level on traditional bullying was explained by previous researchers. Previous studies on traditional bullying indicated that traditional bullies have lower empathy than those who did not reported traditional bullying experience (Joliffe & Farrington, 2006). According to McMahon, Wernsman, and Parnes (2006) traditional bullying was considered as a special type of aggressive behavior and empathy mitigates aggressive and antisocial behavior while it increases prosocial behavior. Similar to the role on traditional bullying, lack of empathy or low level of empathy may have been a role on cyber bullying. Lack of face to face communication, anonymity, and impersonation may cause students to be unable to understand the impact of their bullying behavior on the victim. In other words, students may not be able to empathize with the victim.

Therefore, the major aim of the present study was to investigate the relationship between empathy level and cyber bullying. Prevalence rates of cyber bullying with respect to gender and age for the present sample was examined to obtain the descriptive characteristics of cyber bullies. Second, in order to inspect other characteristics of cyber bullies, the relationship of cyber bullying to traditional bullying experience, the frequent usage of ICT and adult monitoring of the Internet use was inspected. Finally, the relationship between cyber bullying and traditional bullying was tested because the relationship between empathy and traditional bullying was utilized in order to establish a baseline for cyber bullying and empathy relationship.

1.2. Purpose of the Study

The main purpose of the study is to investigate the relationship between cyber and traditional bullying experience and the empathy level with respect to gender differences. In addition, cyber bullying was examined in relation

to traditional bullying experiences, frequent use of ICT, and adult monitoring of the Internet use.

1.3. Research Questions

The research questions of the study were:

1) What is the prevalence rate of traditional bullying and cyber bullying among females and males?

2) Is there a significant relationship between cyber bullying and traditional bullying?

(3) Is there a significant mean difference in traditional bullying and cyber bullying scores of females and males with respect to age?

4) How well do traditional bullying, usage frequency of ICT, and adult monitoring of Internet use predict cyber bullying?

5) What is the relationship between traditional bullying and empathy with regard to gender ?

6) What is the relationship between cyber bullying and empathy with regard to gender ?

1.4. Definitions of the Terms

Cyber bullying: "Sending or posting harmful or cruel text or images using the Internet or other digital communication devices" (Willard, 2005, p.2).

Traditional bullying: According to Olweus (1993, p.197) "a student is being bullied or victimized when he or she is exposed, repeatedly and overtime, to negative actions on the part of one or more other students".

Empathy: "An emotional response that stems from another's emotional state or condition and that is congruent with the other's emotional state or situation" (Eisenberg & Strayer ,1987, p. 5).

Cognitive empathy: "An awareness, an understanding, a knowing of another's state or condition or consciousness, or how another might be affected by something that is happening to him or her" (Staub, 1987, p.104).

Affective empathy: The tendency to experience and communicate feelings of others (Staub, 1987, p. 104).

1.5. Significance of the Study

The significance of the present study comes from two sources; the implications of the findings in terms of counseling and education purposes, and in terms of research purposes.

To begin with, since the topic of the study has been developing recently in Turkey, this study examined cyber bullying in depth for the first time. Knowing about cyber bullying is important in order to prevent adolescents from engaging in cyber bullying and keeping the potential victims safe in the Internet. According to the previous studies, victims of cyber bullying suffer from some psychological problems such as feeling disappointed, anger, sadness, isolation, helplessness, depression, anxiety, family and peer

problems (Hinduja & Patchin, 2006). Researchers pointed out that the issue of cyber bullying deserves attention because cyber bullying might be hurtful due to its effects' extension at victim's home by a computer and mobile phones (Kowalski, Limber, & Agatston, 2008). The disturbing message can be seen or read again and again by the victim and escape might not be possible from them because it can happen anytime and anywhere (Campbell, 2005; Li, 2005).

The results of the present study can be utilized by educators, counselors and parents. First of all, findings of the present study underline the importance of cyber bullying and aimed to grasp parents', educators' and counselors' attention. By knowing the characteristics of cyber bullies, the students who are cyber bully or in the risk of being cyber bully can be determined by parents and educators. Additionally, training programs which aim to teach them prevention strategies can be developed. The training programs for preventing cyber bullying can be given both as seminars and on-the-computer education.

Moreover, the results of the present study provide information about the role of empathy level on cyber bullying. Empathy trainings could be organized for adolescents in order to prevent and intervene in cyber bullying. According to Pecukonis (1990) the basic components of empathy training were discrimination of affects, role taking, affective matching, and event analysis. Originally Pecukonis' empathy training was developed for the aggressive female students and it could be adapted for those who have cyber bullying experience or new training programs can be developed for cyber bullying.

In terms of research purposes, this study introduces three new measurement tools to Turkish literature. The Basic Empathy Scale was adapted into

Turkish to fill the gap in the Turkish literature. The only available empathy scale was developed by Dökmen (1988) but its usage was not practical and scoring was difficult. The Cyber Bullying Inventory was revised and used with a large sample of adolescents. Similarly, the Traditional Bullying Questionnaire was aimed to measure relational bullying separately different from existing bullying scales.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter, the literature related to the cyber bullying and its related topics will be presented. More specifically, the first section explains the definition and the nature of cyber bullying including its impacts on children and adolescents. Later, cyber bullying and empathy literature was presented. However, due to lack of empirical studies investigating the cyber bullying and empathy relationship, traditional bullying and empathy literature was examined to establish a framework for the present study. The previously reported relationship between traditional bullying and empathy will be utilized. Thereby, this chapter includes sections summarizing past research that suggested a link between traditional and cyber bullying. Review of literature reveals that gender is one essential factor that impact how young people experience both traditional and cyber bullying. Therefore, the possible roles of gender were discussed throughout the chapter.

2.1. Definition and Nature of Cyber Bullying

Using information and communication tools (ICT) to hurt others intentionally is the main theme of cyber bullying. Different researchers named cyber bullying differently such as online bullying, digital bullying, electronic bullying, online harassment, cyber bullying, and internet bullying (Kowalski & Limber, 2007; Williams & Guerra, 2007; Wolak, Mitchell &

Finkelhor, 2007; Ybarra, Diener-West & Leaf, 2007) but proposed similar definitions for cyber bullying. Cyber bullying is generally defined as "an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who can not easily defend him or herself" (Smith, et al., 2005, p. 6). Another definition was provided by Willard (2005, p.2) as "sending or posting harmful or cruel text or images using the Internet or other digital communication devices". According to Patchin and Hinduja (2006) cyber bullying is to harass others by sending hurtful and harmful messages via information and communication tools.

The mostly used ways of cyber bullying were stated by Smith et al. (2005) as "electronic mail, web sites, forum sites, chat room, instant messaging (e.g., MSN, Yahoo, and ICQ), SMS, and MMS. The behaviors which can be listed as acts of cyber bullying are:

- Kicking out someone out of chat room without a reason,
- Shooting someone's embarrassing photos secretly by a mobile phone camera,
- Setting out web sites which embarrass or slander someone,
- Sending humiliating, insulting, threatening, abusive and violent messages by electronic mail or mobile phone,
- Spreading rumors about someone in cyber space ,
- Shooting someone's embarrassing photos secretly by a mobile phone camera (in restroom or locker room) and uploading them to the Internet

In order to explain cyber bullying experiences in depth, it should be better to mention some of the case examples quoted in the literature. For example, Chu (2005) told Taylor's story who was an eight grade student. Taylor

received an instant message from a screen name of Immsgirlsgot2hell. The message said Taylor to click on his or her Xanga in a rude manner (go to my Xanga, bitch). When Taylor connected to the page she saw her name in the List of Hos (prostitutes). Taylor said the list was hurtful but she admitted that she did not take it serious.

A more dramatic case was reported by Shariff (2008). Hamed Nastoh was receiving phone calls which were labeling him as gay although he was not gay. He said that no one could understand and helped him in his letter before he wrote committing suicide due to heavy stress caused by cyber bullying incidence.

Cyber space provides people opportunities for doing the acts of cyber bullying. In cyber space it is easy and fast to spread a hurtful, embarrassing or threatening message by using ICT such as a computer or a mobile phone. Additionally, these messages can be sent more than one victim at a time and the cyber bully's identity remains anonymous and tracking him or her is difficult (Erdur-Baker, Yerin-Güneri, Akbaba-Altun, 2006). In addition, the unavailability of the nonverbal messages and personal and physical cues causes misunderstanding in communication and cyber bullying becomes easy (Bargh & MacKenna, 2004).

2.1.1. Impacts of Cyber Bullying

As understood from the cases and the characteristics of cyber space, cyber bullying caused severe psychological problems. Ybarra, Espelage and Mitchell (2007) investigated the effects of cyber bullying by a study which comprised 1588 adolescents with a mean age of 12.6 and the age range was 10 to 15. Of the participants 48% were female and 52% were male. The

participants were grouped into four according to their experience as those who reported to have no experience, those who reported to have only cyber bullying experience, those who reported to have only cyber victimization experience and those who reported to have cyber bullying/victimization experience. The prevalence rate of online bullying was 21%. The findings of the study revealed that those who reported to have cyber bully only and cyber bully/victim experience suffered from psychological problems. These were alcohol and marijuana use and other harder inhalant use. Additionally, those adolescents said that they had close friends who had a police contact or law violation history, and their relationship with their primary caregiver was poor.

In another study carried out by Ybarra, Diener-West and Leaf (2007) utilizing the "Growing Up with Media" Survey. Since their major aim was to examine the overlap between traditional and cyber bullying, they selected the cases who were reported to have both traditional and cyber bullying experience with a sample of 1515 participants. The rate of cyber victimization was 35% and older students and females were most likely to be target of bullying and reported to have been suffering from emotional distress, problems in school functioning and said they were carrying weapon at school.

Another study which was conducted to examine the emotional and psychological consequences of cyber bullying was conducted by Hinduja and Patchin (2006). A sample of 1500 Internet user adolescents were investigated and the findings suggested that 34% of the cyber victims reported that they felt frustrated, 30.6% of them said feeling angry and 22% said feeling sad.

In view of the fact that cyber bullying may cause several severe problems on both bullies and victims, so, it had worth in depth investigation. In the following part the literature on prevalence of cyber bullying by considering gender, age and socioeconomic status differences will be presented.

2.1.2. Prevalence of Cyber Bullying with regard to Gender, Age and Socioeconomic Status (SES)

The prevalence rate of cyber bullying reported differently in research studies because cyber bullying is a recent issue among the youngsters and its definition and measurement differs among researchers. Prevalence rates of cyber bullying with regard to age and gender were reported as a result of studies conducted with different sized samples from different countries such as England, Canada, Belgium, Sweden, Turkey and the USA. The utilized measurement tools and the procedure of application also differ throughout the studies. Therefore, the results can not be compared directly. Nevertheless, each study would give reader a general idea about the rate of cyber bullying among defined samples.

To begin with, Ybarra and Mitchell (2004b) utilized the Youth Internet Safety Survey (YISS) data which was collected through a telephone survey of 1501 youth who used the Internet regularly and aged between 10 and 17. The mean age was 14.1 and 48% of the participants were female. The research study indicated that 15% of the respondents stated that they were Internet harassers, 14% of them said that they made rude or nasty comments online and 1% reported harassing or embarrassing someone on the Internet. Males and females did not differ significantly from each other in terms of cyber bullying experience, however, as the age of the participants increases, his or her likelihood of being a cyber bully increases.

Vandebosch et al. (2006) made a prevalence estimation of Flanders adolescents' cyber bullying experience with a self report questionnaire by comprising a sample of 2052 primary and high school students in Belgium. Results of the study revealed that 52.5% of the participants were reported to have cyber bullying experience and males were found to cyber bully others more than females. Insulting, threatening, deceiving and gossiping about someone on the Internet or by a mobile phone, or stealing passwords of others were the most frequently reported acts of cyber bullying.

In England at 2005, a telephone company that is Tesco Mobile and the National Children's Home Charity (NCH) conducted a study with 770 participants aged between 11 and 19. Participants were asked to rate their cyber bullying experience and 11% of the participants reported that they performed as a cyber bully. In this study, information about gender and age differences and methodological details were not available.

Williams and Guerra (2007) utilized a sample 1519 (55% female, 45% male) 5^{th}, 8^{th} and 11^{th} grade students who were selected from Bullying Prevention Initiative (BPI) data which included 3339 participants in USA. The findings of the study in which data was collected via a self report tool showed that cyber bullying rate was 9.4% among all participants and no gender difference was found in terms of cyber bullying experience. However, a significant grade difference was found. While the cyber bullying rate was 4.5% among 5^{th} graders it increases to 12.9% at 8^{th} grade and decreases to 9% at 11^{th} grade.

In the same vein, Kowalski and Limber (2007) examined cyber bullying prevalence with 3767 (1852 males and 1915 females) middle school students in grades 6, 7, and 8 in USA. Using a 23-item self-report questionnaire the researchers found a prevalence of 4.1%. The authors

explained the reason of relatively low amount of cyber bullying rate as that they asked the experience for the last two months and due to this short time frame, results may be low. The mostly used way for cyber bullying was found as instant messaging (58.4%) followed by in chat room (20.5%) and e-mail (19.1%). As the grade increases the likelihood of being a cyber bully increases. Campbell (2005) claimed that older adolescents were more skillful in online abilities and their access to computer or Internet was easier. Therefore, this may be related to their high probability of engaging in cyber bullying.

There were studies which were conducted with relatively small samples but they also provided information about prevalence of cyber bullying. For example, Syts (2004) conducted a study in a rural area with 233 (81 male and 150 female) participants aged 14 to 18 and attending grade 9 to 12. A self-report questionnaire was utilized to examine cyber bullying and SES relationship. According to the results of the study the rate of cyber bullying was 33.9%. Of the females 36.7% and of the males 28.4% were admitted to engage in cyber bullying, however, the gender difference in terms of cyber bullying experience was not statistically significant. In addition, the relationship between cyber bullying and the socioeconomic status was indirect and Syts (2004) concluded that the rate of cyber bullying may be underrepresented because adolescents in rural areas with low SES cannot access the Internet easily. The difficulty of access may decrease the probability of being a cyber bully or a victim of cyber bullying. Therefore, SES is a foreteller of the frequency of the Internet mediated communication tools usage that is associated with the rate of being a cyber bully or a cyber victim.

A study carried out by Smith et al. (2005) involving 92 (43 male and 49 female) 11-16 year old students with a self report paper- pencil

questionnaire. Of the participants, 6.6% said that they had been cyber bullied repeatedly. Furthermore, there is not a significant age difference between the age groups of 11-13 and 14-16 in terms of cyber bullying experience.

In another study, Li (2005) utilized a sample of 177 (80 males and 97 females) participants and asked their cyber bullying experience on a self-report questionnaire. The author found that 9% of the cyber bullies did cyber bullying via e-mail and 36.4% did cyber bullying in chat room. Of the cyber bullies 52.2% were males and 43.5% were females.

The second study conducted more recently by Li (2006) included 264 (130 males and 134 females) participants who were attending at 7^{th}, 8^{th}, 9^{th} grades. The author analyzed the data which was collected by paper-pencil self-report tool in Canada and reported that 62% of the participants said that they cyber bullied others one to three times and 37.8% were said they cyber bullied others more than three times. Males were reported to engage in cyber bullying experience more than females.

In another research, Patchin and Hinduja (2006) conducted a study to examine cyber bullying by adopting a different methodology from other studies. The authors linked their questionnaire to a music artist's web page where the targeted age group that was older than 18 was visited frequently. Using an electronic format had the advantage of reaching a large number of participants. However, since the Internet is anonymous, the researchers can not be certain if they were receiving questionnaires of the targeted age group or they were receiving the questionnaires of those who were pretending to be. Besides, different from random and convenient samples, in this study participants were self-selected and the results may be biased. The sample comprised of 384 (325 female and 55 male) participants and the

age range was between 9 and 17. The results revealed that 11% of the participants reported that they had experienced cyber bullying. The relatively low rate of cyber bullying may be related to gender distribution in this study. Since females composed of almost 85% of the participants, the rate may be low because females generally had lower cyber bullying experience than females (Vandebosch et al., 2006).

Smith, Mandavi, Carvalho, Fisher, Russell, and Tippett (2008) investigated cyber bullying by utilizing a sample which included 533 participants (261 males and 267 females) aged 11 to 16 in England. The findings of the study in which self report questionnaire were used asserted that the occurrence rate of cyber bullying through instant messaging was 5.3 and through phone call was 4.3. There was not statistically significant difference in terms of cyber bullying experience of females and males.

A sample of 360 (203 males and 157 females) participants with a mean age of 15.3 were participated in the study in Sweden conducted by Slonje and Smith (2008). The authors utilized the questionnaire of Smith et al. (2005) and found the repeated cyber bullying rate as 2.5%. Gender was not found as a significant predictor of cyber bullying. In a similar vein to Smith et al. (2005) and Williams and Guerra (2007), the authors of the study were failed to find a significant age difference among cyber bullies.

Although the research studies which were conducted with Turkish samples are limited in number, they provided similar results with other countries. Erdur-Baker and Kavşut (2007) conducted the first study on cyber bullying with 228 (44% male and 55% female) high school students aged between 14 and 19. The mean age was 15.9 and reported the rate of cyber bullying among Turkish adolescence changing from 28 to 35.2%. The three most

frequently reported acts of cyber bullying were kicking someone out of chat room without a reason, insulting someone in chat room, and violating someone' privacy via web cam. Similar to most of the reported studies, the results revealed that males cyber bully others more than females.

Additionally, Arıcak, Siyahhan, Uzunhasanoğlu, Sarıbeyoğlu, Cıplak, Yılmaz, and Memmedov (2008) performed a study with 269 (134 males and 135 females) secondary school students aged 12 to 19. The mean age was 15.06 and in the study a 21-multiple choice self report instrument was adopted. The authors stated that the cyber bullying rate among Turkish adolescents was 35.7%. The most frequently reported acts of cyber bullying were saying things online which would not be said face to face, introducing themselves as someone else, and saying things which are not true. In addition, males were reported to have more cyber bullying experience than females.

In addition, Topcu et al. (2007, in print) compare the cyber bullying experience of 183 (81 females and 102 males) public and private school students with regard to income level and frequent usage of ICT. The mean age was 14.87 and adolescents coming from high and middle to low socioeconomic status. As a result of the study in which a self report paper-pencil tool was used, the authors found that the prevalence of cyber bullying rates up to 35.2%. Females were found to engage in cyber bullying equally likely to males. The results of the mentioned study indicated that the access of the high SES participants' to information and communication tools were more than those who were from middle to low SES. However, the likelihood of the high SES group being cyber bully was not higher than the middle to low SES group. Access to information and communication tools requires money, and on the expected way, high SES group used the information and communication tools more frequently; but it is not possible

to conclude a direct relationship between cyber bullying and SES. There must be other factors intervening into this relationship.

A final point bears mentioning at this point is about gender difference in cyber bullying experience. Females were claimed to be engaging more cyber bullying than boys because cyber bullying was considered as a relational type of bullying (spreading rumors about someone, social exclusion, gossiping etc.) which was performed by girls mostly (Keith & Martin, 2005). However, these results were not findings of empirical studies. Furthermore, another group of researchers claim that females and males do not differ in terms of their engagement on cyber bullying (Syts, 2004; Ybarra & Mitchell, 2004b; Slonje & Smith, 2008).

However, most of the studies has found that females and males differ in terms of their cyber bullying experience and in general males cyber bully others more than females (Arıcak et al., 2008; Smith et al., 2008; Vandebosch, et al., 2006). Chisholm (2006) clarified the gender difference in cyber bullying experience that females reported to participate in protected online environment such as monitored chat rooms and used a supportive language while males said they were attending to unmonitored online activity.

To sum up, prevalence rates of cyber bullying reported from different countries indicate that cyber bullying is a universal problem among adolescents. One of the reasons for the different prevalence rates might be different methodologies of the studies. Researchers utilized different kinds of questionnaires and data collection strategies (e.g., online, telephone survey, paper-pencil surveys), therefore results differ. For example, the reliability of online data was low because the researchers can not determine who would be selected as participants and participants may pretend easily

while answering online scales.

Furthermore, none of the reported samples were representative of the population. Although the concept of cyber bullying has been developing fast there is not a standardized tool for measuring it yet. Most of the researcher defined cyber bullying similar to each other, but their operational definitions were different. For example, some researchers provided the definition of cyber bullying first and asked to the participants whether he or she had an experience of cyber bullying. Another group listed different acts of cyber bullying and asked participants to rate him or her on each act, then created a total score. Therefore the measurement tools may measure different aspects or forms of cyber bullying and due to the aforementioned differences in methodology, different results may occur.

2.1.3. Other Characteristics of Cyber Bullying

As well as demographic variables (gender, age and SES), the relation of cyber bullying to some other related variables such as academic achievement, perceived peer support, the frequency use of (ICT) and adult monitoring of the Internet use were examined.

Li (2005) investigated the academic achievement of cyber bullies and victims. Results of the study indicated that half of the cyber victims had above average academic achievement, 47.6% (n=177) had average achievement and only 2.4% of them had below average achievement. On the other hand, 34.8% of the cyber bullies had above average academic achievement, 56.5% of them had average achievement and 4.3% of them had below average achievement. Consequently, cyber victims had higher academic achievement than cyber bullies and most of the victims have average academic achievement.

In another study, Williams and Guerra (2007) examined that whether the key predictors of traditional bullying predict cyber bullying. The predictors examined in relation to cyber bullying were moral approval of bullying, perceived school climate, and perceived peer support. Results suggested that participants who reported to have beliefs supporting bullying also admitted that they involved in cyber bullying. In terms of adolescents' perception of school climate, results revealed that the more adolescent perceived their school as trusting, fair, pleasant, the less they reported to involve in cyber bullying. Similarly, the more adolescent perceived their peers as trustworthy, caring, and helpful, the less they reported to engage in cyber bullying. In addition to aforementioned factors which were thought to be related to cyber bullying, ICT usage and adult monitoring of the Internet use were examined. Since these two variables will be examined with respect to cyber bullying in the present study, they would be explained in detail in the following parts.

2.1.3.1. Cyber Bullying and the Frequency Usage of ICT

Internet and mobile phone use seems to be common in other countries and in Turkey. Especially in Turkey, the Ministry of Education organized campaigns for increasing the Internet access in schools even in the deprived regions (MEB-Project of Internet Access). On the other hand, the Internet cafes were so common nearly in each city and youth from all SES can reach the Internet even though they do not have a personal computer and Internet connection.

The usage frequency of the information and communication tools among 6-16 years old youth in Canada was reported as 86% (Media Awareness Network, 2000). According to this research study, gender does not have an

effect on usage frequency but females and males had different preferences of using information and communication tools; females reported that they used the Internet for communication purposes while males said that they used them for entertainment and gaming. Furthermore, females said that they used e-mail more than males (Syts, 2004). Similarly, almost 96.7% of the university students reported that they use e-mail and 81.5% of them said they use instant message one or more times a week (Finn, 2004). Similarly, mobile phone usage was prevalent among youth (Campbell, 2005).

In Turkey, half of the 143 secondary school students indicated that they use the Internet every day (Erdur-Baker et al., 2006) and 80% of the high school students said that they used the Internet and mobile phone/SMS (Erdur-Baker & Kavşut, 2007). In 2004, Turkish Statistical Institute conducted a study in order to investigate the computer and the Internet use preferences of 11 million people in Turkey. According to the results of this research study, the most frequent users of ICT were 16-24 years old males and 43.79% of them reported using computer and 37.41% of them said that they were using the Internet.

Topcu and Erdur-Baker (2007) considered the gender difference in usage frequency of ICT and found that 34.1% of the females and 41.1% of the males stated that they used the Internet every day. Of the females 61% said that they used SMS every day whereas 32.1% of the males said that they used SMS every day. In terms of MSN usage, 31.7% of the females and 37.9% of the males stated that they used the MSN a few times in a week. Of the females 40.9% said that they never used the forum sites while 63.7% of the males said that they used the forum sites. When the chat room use of the females and males were analyzed, 63.4% of the females and almost half of the males reported that they never used chat room. In the same research study, the activities of the participants in the Internet and the place of the

Internet connection was examined. Both females and males used the Internet firstly for doing homework, secondly for chatting, and finally for gaming. Females seemed to use the Internet from home; males prefer connecting to the Internet from the Internet café.

A group of researchers provided evidence for the positive relationship between the frequent usage of ICT and engaging in cyber bullying (Erdur-Baker & Kavşut, 2007; Li, 2005; Ybarra & Mitchell, 2004a). According to the results of the Erdur-Baker and Kavşut (2007), the 14-19 years olds who reported using the ICT frequently were also reported engaging in cyber bullying. There is a significant positive correlation between cyber bullying and computer use but there is not a significant relationship between being a cyber victim and using computer (Li, 2005). Most of the cyber victims (88.6%) use computers at least once a week while cyber bullies said that they use computers at least four times per month (Li, 2005). The results of Ybarra and Mitchell (2004a) supported these findings and found that frequent usage of information and communication tools was a significant factor which was related to being a cyber bully.

Topcu et al. (2007, in print) conducted a study in Turkey and tested the relationship between frequent usage of ICT and cyber bullying. On the contrary to the results of the studies which found a positive and significant relationship, they found that the likelihood of being a cyber bully of the public school students who were found to use ICT less frequently was more than the private school students who were found to use the ICT more frequently.

2.1.3.2. Adult Monitoring of the Internet Use

Although the Internet provided an easier life for people, it causes dangerous consequences. Researchers claimed that children, adolescents and even adults who are the new users of the Internet need monitoring in cyber space. Especially for keeping the youngsters safe, parents need to control what the youngsters are doing in the Internet. There are some cues for parents how they can control their children in cyber space. Some of these cues were locating the computer in a public room instead of letting the child using the computer in his or her own room, installing filtering programs into the child's computer, controlling the computer of the child by means of history tool in the computer, talking with the child about the ethical and safe use of the Internet (Mason, 2008). According to Mason (2008) in order to monitor adolescents' Internet use, parents need to be computer literate; however, most of the children think that their parents are computer illiterate (King et al., 2007). An interesting finding from King et al. (2007) is that while 89% of the students claimed that they are the more knowledgeable about technology than their parents, 18% of the parents claimed that they are the chief technology users at home. On the contrary, according to Vandebosch et al. (2006), 38% of the youngsters thought that their parents were knowledgeable about the Internet use. Moreover, 12% of the adolescents said that their parents shared the tips about efficient use of the Internet with their children and talked to them about the dangers in the Internet.

Punishing the adolescence due to his or her risky and unethical behavior during computer and Internet usage would not solve the problem. Willard (2007) proposed that instead of limiting computer and the Internet use, precautions which include collaboration of adolescence, school and parents would be helpful. According to Willard the team which consists of adolescents, educators and parents should make a plan including monitoring

practices. Worthen (2007) emphasized the role of school personnel in monitoring. According to Worthen schools should have a global policy which is against any type of aggression.

Almost all of the researchers agree that monitoring is an effective strategy for keeping children away from cyber bullying and other types of online harassments. The important point here is that adult's awareness of the issue because they can not keep their children from something which they do not know even.

2.1.4. Cyber and Traditional Bullying

As already indicated above, cyber bullying research is still in its infancy despite its fast development. The convention so far is to use traditional bullying literature to shed light on cyber bullying to develop new research testing possible links. This study adopts the same starting points. Therefore, before discussing the relationship between cyber and traditional bullying, providing fundamental information on traditional bullying would be helpful for those who are less familiar with traditional bullying.

2.1.4.1. Definition and Nature of Traditional Bullying

Traditional bullying was began to investigated after 1970s (Shariff, 2008) because until then it had been considered as a normal part of development in adolescence (Campbell, 2005). The pioneer researcher, Olweus (1993, p.197) defined traditional bullying as "a student is being bullied or victimized when he or she is exposed, repeatedly and overtime, to negative actions on the part of one or more other students" and according to him traditional bullying has three types physical, verbal and relational. Examples

of physical bullying are kicking and pushing; example behaviors for verbal bullying is name-calling; and example of relational bullying are ignoring, gossiping, spreading rumors, and scapegoating.

The occurrence of traditional bullying seems to be prevalent in majority of the countries. For instance, Camodeca, Goossens, Terwogt and Schuengel (2002) conducted a longitudinal study in Netherlands. There were 236 youngsters (126 female and 110 males) at time 1. The traditional bullying was rated by peer nomination and the total bully, victim, and bully/victim rate was found as 25.8%. Males had higher scores of bullying than females. At time 2, the sample declined to 215 because some children changed classes and new students moved into the selected classes. The total rate of bully, victim, and bully/victim decreased significantly to 15.7%. However, still males' bullying scores were more than females' scores.

Another example study investigating traditional bullying was carried out in Germany by Scheithauer, Hayer, Petermann and Jugert (2006). The Bully/Victim Questionnaire of Olweus was given to 2086 students (1046 females and 1040 males) attending to 5^{th} to 10^{th} grades. Of the total sample 12.1% reported that they bullied others, moreover, males were found to be determined to bully others significantly more than females. In terms of age trends, analyses indicated that bullying behavior peaked at 6^{th} to 9^{th} grades.
In Turkey, one of the conducted studies of bullying was carried out with a relatively larger sample size by Alikaşifoğlu, Erginöz, Ercan, Uysal, Kaymak, and İlter (2004). Sample of 4153 high school students (1955 females and 2198 males) participated into the study. A self report paper-pencil questionnaire was administered to the participants and the findings of the study indicated that 42% of the participants admitted that they had been in a physical fight. Male students reported engaging in physical bullying more than females at each grade level.

Some of the previously conducted studies were inspected to understand who were involved in bullying and what the risk and protective factors of traditional bullying were. Being male was stated as a risk factor of traditional bullying because previously conducted studies has found that males bully others more than females (Olweus, 1993). Additionally, Dölek (2002) suggested that being male was also a risk factor for engaging in traditional bullying due to biological factors. Atik (2006) conducted a study with Turkish sample of 742 students and examined the risk factors for involvement in traditional bullying for females and males. For females factors influencing involvement in traditional bullying as a bully were low acceptance/involvement of parents, low academic achievement, higher loneliness and psychological autonomy. For the male students the risk factors for involvement in traditional bullying were external locus of control, high self-esteem, and loneliness level, and having parents who were lower strictness and supervision scores.

As seen in the mentioned studies examining traditional bullying, the occurrence rate of traditional bullying seems to be higher than cyber bullying. Literature was full of studies investigating the effects of traditional bullying on bullies and victims. According to some of those studies, peer victimization was found significantly related to posttraumatic stress disorder (Mynard, Joseph, & Alexandra, 2000), and psychosomatic symptoms such as sleeplessness, feeling low, irritability, headache, backache, and nervousness (Natvig et al., 2001), depressive symptoms and suicidal thoughts (Roland, 2002). Like cyber bullying, traditional bullying has also negative effects on adolescents.

2.1.4.2. The Relations of Traditional Bullying to Cyber Bullying

Researchers divided into two in examining the relationship of cyber and traditional bullying, one group think that cyber and traditional bullying are different in nature (Munro, 2002; Strom & Strom, 2004; Greene, 2006) and another group claimed that they are related (Syts, 2004; Ybarra & Mitchell, 2004a; Li, 2005; Smith et al, 2005; Erdur-Baker & Kavşut, 2007; Topcu & Erdur-Baker, 2007).

First group of researchers claimed that cyber bullying is a different phenomenon and although it had some common points with traditional bullying, it is not an extension of traditional bullying. According to Munro (2002) cyber bullying is different from traditional bullying in many ways. First of all, it is easy for a cyber bully to hide his or her identity. Secondly, cyber bully could send a message without any control and anytime he or she likes and cyber bully's physical appearance is secret, he or she also can not see the victim's reactions to the cyber bullying act. Thirdly, cyberspace is perceived as illusory because the visual and auditory cues are lacking. The fourth issue is that people feel free to make command about the areas such as the job, authority, gender or race of the other part which they do not have the courage in reality. The final reason raised by Munro (2002) is the possibility of distortion of one's personality characteristics such as aggression in cyber bullying.

Along the same line, Strom and Strom (2004) noted factors that may make the issue worse. Firstly, unlike traditional bullying people who cyber bully others can be physically weaker than the victim of cyber bullying. Secondly, cyber bullying may cause more harm than traditional bullying because it would not stay as hidden between the bully and the victim, it could be shared by a large audience in a short time via photos or text. Another

difference is that cyber space is anonymous and cyber bullies are difficult to find and punish, they are sure that they will not be recognized. Fourthly, in schools, administrators could not decide whether they should intervene to the problem because it occurs outside the school sometimes. Fifthly, victims hesitate to inform adults fearing that parents limit their access to mobile phones or the Internet and computers. The final difference that Strom and Strom (2004) claimed is the common impression of nothing can be done to this problem different from traditional bullying.

Finally, Greene (2006) stated that cyber bullying violate the three main assumptions of traditional bullying; 1) the identity of the bully is known to the victim 2) there is a power inequality between the bully and the victim and 3) bullying occurs only in the school. In cyber bullying, most of the time the identity of the bully is unknown to victim and cyber bullying can happen anywhere and anytime because it was performed via computer and/or mobile phone. There is also power inequality between the bully and the victim in cyber bullying. However, instead of physical characteristics and social popularity, computer literacy level causes the power of cyber bully (Patchin ve Hinduja, 2006). Moreover the direction of power inequality may be reverse in cyber bullying. According to Strom and Strom (2004) bullies may choose physically stronger victims to whom they can not attack in real world and took their revenge in cyber world.

Although previously stated researchers emphasized the differences between cyber bullying and traditional bullying, another group of researchers claimed that cyber bullying and traditional bullying are related (Syts, 2004; Ybarra & Mitchell, 2004a; Li, 2005; Smith et al, 2005; Erdur-Baker, 2007; Erdur-Baker & Kavşut, 2007; Raskauskas & Stoltz, 2007; Topcu & Erdur-Baker, 2007; Ybarra et al., 2007).

Among one of those claimed that cyber and traditional bullying were related, Syts (2004) stated that cyber and traditional bullying were related in consequence of a research study in which 233 participants aged between 14 and 18 were adopted. Additionally, Ybarra and Mitchell (2004a) provide empirical evidence for the idea that bullying in the cyber space is an extension of traditional bullying. Li (2005) examined the relationship between traditional and cyber bullying by using correlation tests and found evidence for the positive relationship. Similarly, after performing a research study with 92 students aged between 11 and 16, Smith et al. (2005) found a relationship between traditional and cyber bullying. In a similar vein, Erdur-Baker (2007) found a significant relationship between traditional bullying and cyber bullying which was determined by gender, that is, while there is a significant relationship between traditional and cyber bullying among males, the relationship between traditional and cyber bullying was not significant among females. Erdur-Baker and Kavşut (2007) also provided evidence for the positive and significant relationship between cyber and traditional bullying in consequence of a correlational study. According to the findings of Raskauskas and Stoltz (2007) traditional bullies were also cyber bullies more than which is expected by chance. Although the strength of the relationship between traditional and cyber bullying was found to be low, there was still a significant relationship (Ybarra et al., 2007).

According to the results of an interesting study which was conducted through collecting the newspaper reports of last 6 years by Erdur-Baker et al. (2006), fights were started in MSN and/or chat rooms, and then they extended on the physical world and resulted in injury, stab and even murder. In other words, both traditional and cyber bullying can extend each others world and it seems that they are extensions of each other.

In conclusion, it is difficult to make a conclusion without further studies whether cyber bullies are the traditional bullies performing in the cyber

space or cyber bullies and traditional bullies have different characteristics. However, it seems that there is a relationship between cyber bullying and traditional bullying because the number of studies reported a relationship are more than studies reported that there is not a relationship. A different point is that, the studies claiming that the traditional and cyber bullying were not related to each other were not empirical studies. However, the authors who stated that two types of bullying were found as related reported the findings of empirical studies. Therefore, the view which asserting traditional and cyber bullying were associated seems to be stronger.

2.2 Bullying and Empathy

As stated previously the major aim of the present study was to investigate the relationship between cyber bullying and empathy. The traditional bullying and empathy relationship reported by existing literature was the main motivation for the presenting study. Therefore, in order to provide a framework for the present study, the studies on traditional bullying and empathy summarized first, followed by the possible relationship between cyber bullying and empathy.

2.2.1. The Relationship between Traditional Bullying and Empathy

Researchers attempted to explore the internal motivators and external factors which make adolescents engage in bullying. The reason of searching for the motivating factors was preventing bullying and keeping adolescents engaging in bullying others. According to previous research there were variables related to traditional bullying such as negative self-concept (Turgut, 2005), self-esteem (Salmivalli, Kaukiainen, Kaistaniemi, Lagerspetz, 1999) and empathy (Olweus, 1993). One of those factors which

were explored with regard to bullying was empathy level of bullies. Empathy level of bullies was found as related to bullying behavior but before explaining the link between empathy and traditional bullying, the definition of empathy was provided below.

According to Eisenberg and Strayer (1987, p. 5) empathy is "an emotional response that stems from another's emotional state or condition and that is congruent with the other's emotional state or situation". In this definition empathy is multidimensional and it has two components; a cognitive component and an affective component. Cognitive component is "an awareness, an understanding, a knowing of another's state or condition or consciousness, or how another might be affected by something that is happening to him or her" and the affective component is the tendency to experience and communicate feelings of others (Staub, 1987, p. 104).

Empathy level of people was expected to be different with respect to gender because empathy level is determined by the brain regions especially frontal lobe (Rueckert & Naybar, 2008). However, there is an alternative view suggesting the difference of empathy among females and males is due to learned gender roles (Lennon & Eisenberg, 1987). Additionally, Endresen and Olweus (2001) make a connection between lower level of empathy in males and their macho image. Whatever the reason and the investigating technique was females were found to be more empathic than males (Rueckert & Naybar, 2008).

Research results of the studies inspecting the relationship between empathy and aggression would be summarized because traditional bullying was considered as a special type of aggression (Gomes, 2007). The findings of the studies indicated a negative relationship between empathy and aggression. That is to say, those who have aggressive behavior experience

were most likely to have lower empathy levels (Eisenberg & Strayer, 1987; Kaukiainen, Björkqvist, Lagerspetz, Osterman, Salmivalli, & Ahlbom, 1999; Björkqvist, Österman, & Kaukiainen, 2000). These authors suggested that by means of empathy, aggressive behaviors could be mitigated. Loudin et al. (2003) found a relationship between lower levels of empathy and higher level of aggression for males but not for females. In addition, Gomes (2007) listed lack of empathy as a theme of aggressive behavior while he conducted the conceptualization study for aggression.

The factor affecting the negative relationship between aggression and empathy might be prosocial behavior. Prosocial behavior was defined as voluntary behavior intended to benefit and help another person (Eisenberg, Losoya, & Guthrie, 1997). Prosocial behavior was positively related to empathy and negatively related to aggressive behavior. In other words, those who have high empathy levels were found to behave prosocial more than those who have lower empathy levels, although the research studies investigated this relationship empirically are limited in number (McMahon et al., 2006). McMahon et al. tested gender and empathy as predictors of prosocial behavior among 150 African American adolescents. According to the results of the study, older students displayed more prosocial behavior than younger ones and males who were highly emphatic showed more prosocial behavior than females. However, there is not a significant difference between boys and girls who have low empathy levels. Therefore, the authors concluded that empathy predicts prosocial behavior well among males but not as good as among females. Similarly, Eisenberg and Miller (1987) proposed a positive relationship between empathy and prosocial behavior.

Underwood and Moore (1982) reviewed the research studies examining age and prosocial behavior and concluded that prosocial behavior seems to

decline in the middle school age. Interestingly, at the middle school ages, cyber bullying rate peaked (Williams & Guerra, 2007).

When the relationship between bullying which is a special type of aggression and empathy was examined, researchers stated that traditional bullying and low empathy were related meaning that traditional bullies have lower empathy than those who are not bullies (Olweus, 1993; Gini, Albiero, Benelli & Altoe, 2007). Furthermore, affective component of empathy is lacking in the bullies rather than the cognitive component and especially females who committed indirect bullying have significantly lower affective empathy than females who do not bully others (Jolliffe & Farrington, 2006). Same authors suggested that in physical area, victims' emotional reaction is available to the perpetrator and the reason of perpetrator's failure to react the emotions of victim is sign of lack of empathy.

Empirical studies revealed a relationship between types of aggression (reactive and proactive) and bullying (Roland, & Idsoe, 2001). Traditional bullies are the higher level of aggressors, bad perspective takers and can not be empathic of their victims. Empathy is considered as a prosocial response and prosocial children are responsible and sensitive to the emotions of others (Barnett, 1987) so they were not found to be bullies (Warden & Mackinnon, 2003).

2.2.2. The Relationship between Cyber Bullying and Empathy

In cyber bullying literature, there is not an empirical research study examining the role of empathy on cyber bullying experience. However, since traditional and cyber bullies have similar characteristics, low empathy level could be a related factor of cyber bullying.

Previously conducted studies gave the impression that the roles of face to face relationship in the development of empathy in people (e.g., Carr & Lutjemeier, 2005). According to the results of the study, youth who reported previous physical violent behavior failed to recognize facial affect of others. Therefore, this study emphasizes the importance of seeing the facial expression of other for developing empathy. However, in cyber space, face to face relationship is not available, so, the importance of empathy even increases.

Similarly, the results of Sonnby-Borgström, Jönsson and Svensson (2003) indicated that those who could see the face of other would have high empathy than those who can not see the other person face to face. In the cyber space people can not see other's face and facial expressions as well. Therefore, low empathy level is expected to be related to cyber bullying experience as a result of lack of face to face relationship.

2.3. Summary

Cyber bullying can be considered as a problem in Turkey more than some other countries (e.g., Sweden) when the occurrence rates were examined. Therefore, cyber bullying needs to be investigated further before preparing programs for preventing it. In terms of gender difference in engaging in cyber bullying, studies in the literature reported inconsistent results. The relation of cyber bullying and other demographic characteristics such as age and SES was not investigated in depth and it is difficult to make precise inferences.

Additionally, since cyber bullying necessitates using the Internet, computer or mobile phone, the frequent usage of these tools and cyber bullying relationship was inspected. The findings of the previously conducted studies

indicated that the frequent usage of ICT and cyber bullying were related to each other (Erdur-Baker & Kavşut, 2007; Li, 2005; Ybarra & Mitchell, 2004a). Moreover, as a preventive approach, monitoring the Internet use of adolescents by adults was suggested (Mason, 2008). However, findings of the studies examining the relationship between adult monitoring of the Internet use and cyber bullying pointed out that a smaller amount of parents were monitoring their children. (Vandebosch, et al., 2006).

The underlying mechanisms of cyber bullying have not been examined yet in the literature by empirical studies. One of the suggested underlying mechanisms of cyber bullying or the factor leading adolescents engaging in cyber bullying was proposed as empathy level and its relation to cyber bullying was requested specific inspection. Empathy level of the adolescents was proposed as an important factor because lack of empathy has been found as a significant predictor of traditional bullying. The relationship between cyber and traditional bullying was tested in the previous studies and in most of the studies they were found to be related. Moreover, the importance of empathy level was elevated in the cyber bullying due to the lack of face to face relationship. In the present study, the relationship between cyber bullying and empathy level will be tested empirically and the methodology of the current research will be presented in the next chapter.

CHAPTER III

METHOD

The major goal of the study was to examine the relationship between cyber bullying and empathy with regard to gender differences. In order to inspect this relationship, the knowledge on traditional bullying and empathy relationship was used because cyber and traditional bullying seem to be associated to each other according to previous studies. Additionally, the predictor role of traditional bullying experiences, the frequent usage of information and communication tools (ICT), perceived adult monitoring of the Internet use in predicting cyber bullying experience will be tested.

In order to achieve these aims, the subsequent methodology was followed. In the first section of this chapter, the participants' characteristics were presented. In the second section, the instruments which were utilized in data collection were introduced. The third section explained the data collection procedure. Finally, in the fourth section the data analysis procedure was presented.

3.1. Participants

The participants of the study consist of 717 adolescents. In order to reach the participants of the study, convenient sampling method was utilized. The present study has two independent data sets that were gathered from students who were attending four university entrance exam private

preparation courses in Ankara and one course in Sinop. The first data set used to test the preliminary validity and reliability tests of the measurement tools. The second data set was gathered from the second group of participants who were recruited similar to first group of participants and confirmatory validity and reliability tests were conducted with second data set. The characteristics of the both group of participants were described below. After comparing the two groups of participants in terms of their compatibility, the data gathered from the two groups of participants were collapsed for the purpose of conducting main analyses in order to increase reliability, sample size and power. The main analyses for answering research questions were carried out with the whole sample. The characteristics of the two samples and the whole sample were presented below.

Sample One

First sample consists of 358 participants (178 female, 178 male, 2 participants did not report gender) aged between 13 and 21 (M=16.58; SD=1.42; Median=17; Mode=17) and attending university entrance exam private preparation courses for studying the university entrance exam and living in Ankara and Sinop.

Sample Two

Similarly, second group of participants were contacted at university entrance exam private preparation courses in Ankara and Sinop. Three hundred fifty nine participants (233 female, 124 male, 2 participants did not report gender) aged between 13 and 21 were recruited for the second group and mean age was 17.07 (SD=1.46; Median=17; Mode=17).

Whole Sample

Two samples were added up and main sample of the present study includes 717 (411 females, 302 males and 4 participants did not report gender) Turkish adolescents aged between 13 and 21 (*M*=16.83; *SD*=1.46; Median=17; Mode=17).

Demographic Characteristics of the Participants

Participants' demographic characteristics were presented in Table 3.1 for the whole sample and computer and the Internet usage characteristics were shown in Table 3.2. A great amount of participants (54.4%) reported that they were attending 11th class. Almost half of the participants' (45.9%) family income was between 1000 and 1999 YTL. While 31.7% of the mothers were high school graduates, 37% of the fathers were university graduates.

Table 3.1
Demographic Characteristics of the Whole Sample

	Whole Sample	
	f	%
Class		
9th	29	4
10th	83	11.6
11th	390	54.4
High school graduate	106	14.8
Family income (Monthly)		
0-499 YTL	17	2.4
500-999 YTL	106	14.8
1000-1999 YTL	329	45.9
2000-2999 YTL	131	18.3
3000 YTL or more	104	14.5

Table 3.1 *(cont.)*
Demographic Characteristics of the Whole Sample

	Whole Sample	
	f	%
Mother Education		
Illiterate	6	.8
Literate	6	.8
Primary School	170	23.7
Elementary School	94	13.1
High School	227	31.7
University	188	26.2
Master's	8	1.1
Doctorate	6	.8
Father Education		
Illiterate	2	.3
Literate	3	.4
Primary School	83	11.6
Elementary School	81	11.3
High School	225	31.4
University	265	37
Master's	32	4.5
Doctorate	8	1.1

In terms of computer and the Internet use characteristics, of the participants 82% stated that they had a computer at home and 70.3% said they had Internet connection at home. On the other hand, 41.1% of the participants reported that they used computer at school whereas 34.7% of them said they connected to the Internet at school. Of the participants, 24% reported that they used the Internet 1 to 3 hours in a week and only 15.3% of them said visiting Internet café once in a week. Almost, three fourth (71.5%) of the participants assessed their parents as using computer and Internet worse than him or herself. In addition, 72.8% of the participants reported that their Internet use was controlled by their parents, while 49.5% of them reported that their Internet use was controlled by the school personnel.

Table 3.2
Computer and Internet Usage Information of the Whole Sample

	Whole Sample	
	f	%
Using computer at home		
Yes	588	82
No	129	18
Connecting to the Internet at home		
Yes	504	70.3
No	108	15.1
Using computer at school		
Yes	295	41.1
No	417	58.2
Connecting to the Internet at school		
Yes	249	34.7
No	461	64.3
Weekly computer/Internet usage		
Never	60	8.4
Less than an hour	67	9.3
1-3 hours	172	24
4-7 hours	119	16.6
8-14 hours	85	11.9
15-25 hours	44	6.1
26-39 hours	16	2.2
40 hours or more	22	3.1
Visiting the Internet café		
Every day	17	2.4
Once or twice in a week	104	14.5
Once a fortnight	58	8.1
Once in a month	110	15.3
4-5 times in a month	52	7.3
Never	372	51.9
Parental computer literacy level		
Better than me	62	8.6
Worse than me	513	71.5
At the same level with me	133	18.5
Internet use controlled by parents		
Control	522	72.8
No control	195	27.2
Internet use controlled by school personnel		
Control	355	49.5
No control	362	50.5

Finally, Table 3.3 summarized the frequency of information and communication tools (ICT) usage. Nearly all of the participants (90.9%) stated that they were using messenger. Similarly, SMS usage seemed to be high among sample (91.9%). Moreover, e-mail was the third frequently reported tool (73.5%) and forum site usage was also frequent among participants (52%). However, facebook and chat room, usage was less frequent.

Table 3.3
The Usage Frequency of ICT for Whole Sample

	Whole Sample	
	f	%
Messenger		
Use	652	90.9
Not use	61	8.5
Facebook		
Use	204	28.5
Not use	486	67.8
Chat room		
Use	76	10.6
Not use	621	86.6
Forum sites		
Use	373	52
Not use	316	44.1
E-mail		
Use	527	73.5
Not use	174	24.3
SMS		
Use	659	91.9
Not use	50	7

3.2. Instruments

In the present study a booklet containing three self-report assessment tools was used for data gathering. In order to assess the cyber bullying experience the "Cyber Bullying Inventory" (CBI) was used. In addition to cyber bullying experience, ICT usage frequency and adult monitoring of Internet use were asked as auxiliary questions. For the purpose of measuring traditional bullying a new scale called "The Traditional Bullying Questionnaire" was developed and used. Thirdly, "Basic Empathy Scale" which was previously developed by Jolliffe and Farrington (2006) was adapted into Turkish and used in order to measure affective and cognitive empathy level of the participants. Finally, a demographic form was utilized to obtain the information related to age, class, gender, income, parental education.

3.2.1. Cyber Bullying Inventory (CBI)

Cyber Bullying Inventory which was developed by Erdur-Baker and previously used by Erdur-Baker and Kavşut (2007) was revised for the present study. The original CBI consists of two parallel forms; one for cyber bullying and one for cyber victimization. Cyber bully form had 16 questions and cyber victim form had 18 questions. Participants were asked to rate themselves on a 4-point Likert type scale (1 = *It has never happened to me*, 2 = *It happened once or twice*, 3 = *It happened three-five times*, 4 = *It happened more than five times*). In the present study, only the cyber bully form was revised and utilized for the purpose of answering research questions.

In order to revise the CBI, first, the literature and the previously used similar

scales were examined. Afterwards, some new items were written and some other items were reworded. The revised CBI consisted of 34 items. Participants were asked to rate their experience on a four point Likert type scale (1=*never*, 2=*once*, 3=*twice or three times*, 4=*more than three times*).

3.2.1.1. Focus Group and Expert Opinion

In order to evaluate the CBI for the age group of sample, a focus group of six students (2 females and 4 males aged between 16 and 18) was formed. The participants of the focus group were recruited based on their pre-test scores on a short questionnaire asking the usage frequencies of the Internet, MSN, SMS, forum sites, e-mail, chat room, SMS, the total amount of time spending using the Internet and the activities performed on the Internet. Total of 79 students (42 females, 37 males) aged between 14 and 18 answered the short questionnaire. Among these participants, two of the females and four of the males were asked to be part of the focus group and they all accepted to participate.

The questionnaires were reviewed with the students in the focus group in terms of wording, style, and content. Members of the focus group suggested combining some of the items of CBI. An example was "sending hurtful e-mails" and "sending embarrassing e-mails". They said that it would be difficult to differentiate with the hurtful and embarrassing messages, so these two items should be combined. The suggested items were combined and the final item number added up to 26 rated on a four point Likert scale (*1=never, 2=once, 3=twice or three times, 4=more than three times*) for each statement. The lowest score one can have was 26 and the highest score one can have was 104. Higher scores indicated more frequent cyber bullying experience.

Following, the expert opinion was requested for evaluating the appropriateness of the items. CBI was given to three experts and all of them evaluated the scales as appropriate for the targeted group. They suggested using Turkish words and changing some grammar problems. According to their recommendations grammar problems were corrected and foreign words replaced with their Turkish counterparts. Sample items from the final version of CBI and were presented in Appendix A.

3.2.1.2. Validity and Reliability of CBI

Exploratory Factor Analysis

In order to test the construct validity of the scale and clarify the factor structure, exploratory factor analysis (EFA) was conducted with the first data set. Before conducting the exploratory factor analysis, assumptions of EFA were checked. First, the sample size needs to be enough to conduct EFA. According to Hair, Anderson, Tatham and Black (1998) N/p $\geq$10, in the current study, this ratio was 13.77, therefore the sample size was enough. Second, all the variables were metric.

Third, Hair et al. (1998) suggested that the correlation coefficients should be higher than .30. In the present study, although most of the correlation coefficients in the correlation matrix were not large, the Bartlett test of sphericity was significant meaning that there were correlations at least some of the variables. Fourth, the Kaiser–Meyer–Olkin value was .80 providing evidence for multivariate normality and sampling adequacy for factor analysis (Field, 2005).

Results of the maximum likelihood analysis with oblique rotation revealed

eight factors explaining 48% of the total variance. However, the items loaded to these 8 factors randomly and did not form a consequential factor structure. In fact, theoretically, the scale was aimed to have one factor. Therefore, the factor number was forced to one and the analysis was repeated. The factor loadings of the items ranged from .68 and .08 (Table 3.4). Three items had factor loadings which were lower than .30 (.270, .226 and .083). According to Hair et al. (1998) items with factor loadings of lower than .30 should be eliminated. Two of them were eliminated from the further analysis. Item with factor loading of .270 was kept because it was closer to .30 and theoretically appropriate. In order to test the reliability of CBI, alpha coefficient was calculated. CBI has an internal consistency coefficient of .86.

Table 3.4
The Factor Loadings of CBI

	Cyber Bullying
to reach e-mails of someone by stealing account passwords	.68
to block the accounts of someone by stealing account passwords	.64
to humiliate someone due to commands or information written on a forum site	.58
to violate the privacy of someone via web cam	.54
to use screen name of someone without taking permission	.53
to block someone to use messenger	.52
to spread information shared by messenger to others without permission	.50
to insult someone in the chat room	.49
to send threatening, embarrassing, hurtful SMSs	.48
to form a group opposed to someone or exclude him or her from the group in a forum site	.48
to threaten someone in chat room	.46
to spread rumours about someone in the Internet	.45
to kick someone out of the chat room without a reason	.44

Table 3.4 *(cont.)*
The Factor Loadings of CBI

	Cyber Bullying
to been cancelled of the account by the admin of the forum sites	.42
to activate the web cam of another person secretly	.42
to take personal information from computer without permission of the owner	.40
to send threatening, embarrassing, hurtful e-mails	.40
to humiliate someone without a reason in a forum site	.39
to humiliate someone by using fake photos	.37
to deceive someone by lying about the gender	.37
to take embarrassing photos of someone secretly	.36
to spread personal information and secret of someone to others without permission	.34
to offer sexual relationship in chat room	.31
to send embarrassing photos of someone to others without permission	.27
to have been hurt as a result of a Internet friendship	.23
to set up web pages or groups embarrassing, slandering someone in friendship sites such as Facebook, Yonja.	.08

Confirmatory Factor Analysis

By utilizing the second data set, confirmatory factor analysis was performed on CBI to examine how well the one factor model fit the present data.

As the evaluation criteria, the following fit indices were selected: the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normed fit index (NFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). The GFI, AGFI, CFI, NFI statistics range from 0 to 1, and values greater than .90 indicate a good model fit. For RMSEA, a value of .05 or less indicates a good fit, a value of .08 indicates a reasonable fit, and a value of .10 and higher indicates a poor fit (Byrne, 2001).

Results indicated an inadequate model fit for one factor model (GFI= .73, AGFI =.67, CFI=.55, NFI=.51, TLI=.51 and RMSEA= .12). To improve the model, modification indices were examined to determine whether additional paths can be added to the model. As a result of modification indices check, adding correlation between error terms of items 1-6, 3-10, 6-10, 8-9, 4-25, 10-13, 14-24, 17-18, 18-19, 20-24, 21-22, 24-25 (Figure 1) was decided. Actually, items of these pairs are similar in content. Thus, there is theoretical justification for these statistical findings. After the addition of these correlation terms, results showed an acceptable mediocre fit for RMSEA = .08 but other fit indices were still not acceptable (GFI =.84, AGFI =.81, CFI=.80, NFI=.74, and TLI=.77). All of the factor pattern coefficients were significant and ranged from .70 to .17. Therefore, the results suggested that the modified one factor model was confirmed with the present data. The internal consistency of the items was tested by Cronbach alpha coefficient and the alpha coefficient obtained in this study was .86.

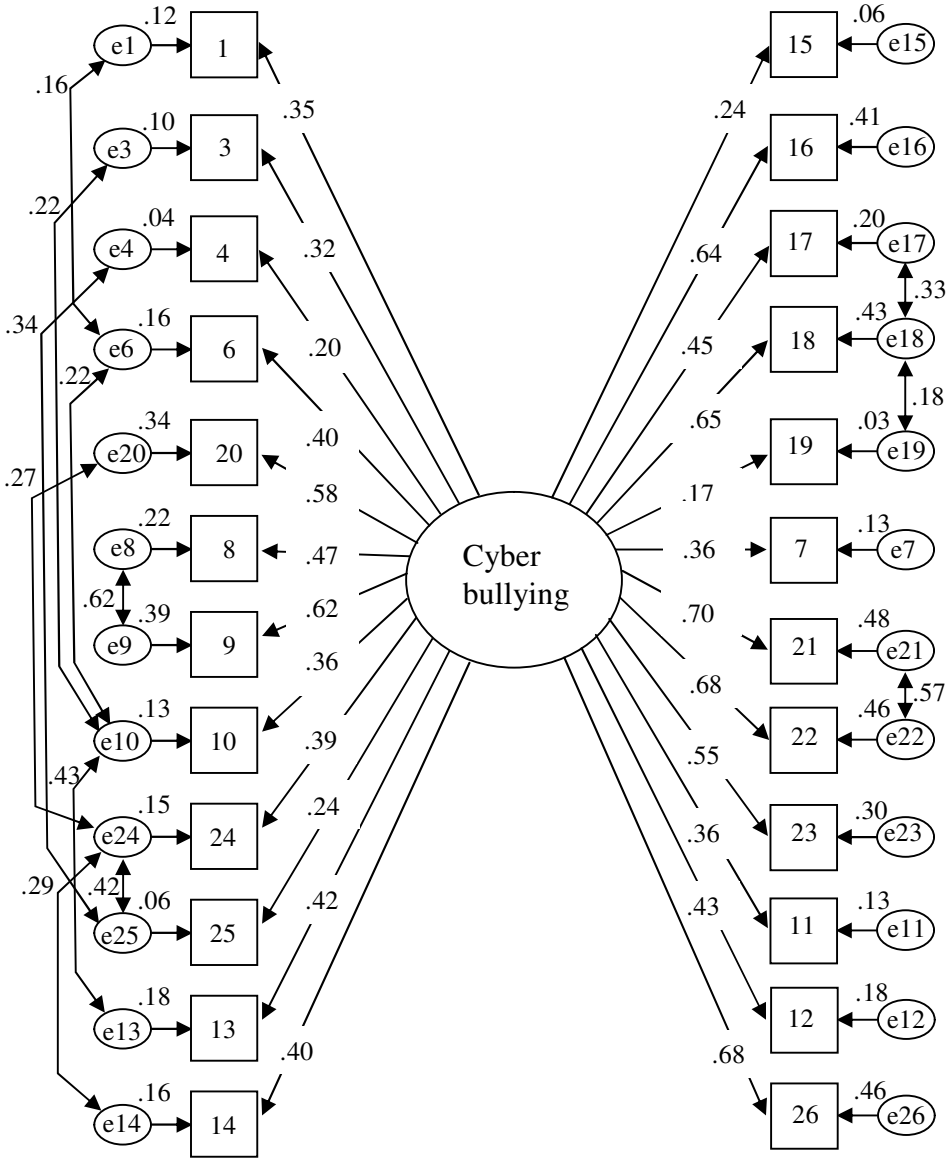

Figure 3.1 One-factor Model for CBI

3.2.2. Traditional Bullying Questionnaire (TBQ)

Traditional bullying experience of the participants was questioned by using "The Traditional Bullying Questionnaire" which was developed for the present study. It was developed by inspiring the Olweus' Bully/Victim

Questionnaire (1996 cited in Dölek, 2002) and the questionnaire used in Bilgiç (2007). The reason for not using the previously developed scales is that those scales do not measure the covert type of traditional bullying separately and asks more than one action in one statement. In the literature, cyber bullying is thought to be related to the covert (relational) type of traditional bullying (Keith & Martin, 2005) which forced the researcher to develop a questionnaire measuring relational bullying separately.

At the beginning of the scale development studies, 7 items were generated. The scale was evaluated by the focus group that was described in the 3.2.1.1. Afterwards, three experts inspected this scale. Both the students in the focus group and the experts evaluated the items in terms of their age appropriateness and understandability. The final version of the scale has 7 items aimed to measure covert bullying on a four point Likert scale (*1=never, 2=once, 3=twice or three times, 4=more than three times*) for each item. The lowest score one can had was 7 and the highest score one can had was 28. Higher scores indicated more frequent traditional bullying experience. Sample items from the final version of the scale were presented in Appendix B.

3.2.2.1. Validity and Reliability of TBQ

Exploratory Factor Analysis

In order to test the construct validity of the scale and clarify the factor structure, exploratory factor analysis (EFA) was conducted with the first data set. Before conducting the exploratory factor analysis, assumptions of EFA were checked. First, the sample size needs to be enough to conduct EFA. According to Hair et al. (1998) N/p $\geq$10, in the current study, this ratio was 51.14, therefore the sample size was enough. Second, all the variables were metric.

Third, Hair et al. (1998) suggested that the correlation coefficients should be higher than .30. In the present study, although some of the correlation coefficients in the correlation matrix were not large, the Bartlett test of sphericity was significant meaning that there were correlations at least some of the variables. Fourth, the Kaiser–Meyer–Olkin value was .82 providing evidence for multivariate normality and sampling adequacy for factor analysis (Field, 2005).

Results of the maximum likelihood analysis with oblique rotation revealed one factor solution explaining 35.344% of the total variance. The factor loadings of the items ranged from .74 and .43 (Table 3.5). Hence, all the items kept in the scale, because, item loading higher than .30 was acceptable (Hair et al., 1998). In fact, theoretically, the scale was aimed to have one factor which was called relational type of traditional bullying. In order to test the reliability of TBQ, Cronbach alpha coefficient was calculated. TBQ has an internal consistency coefficient of .78.

Table 3.5
The Factor Loadings of TBQ

	Traditional Bullying
to fool someone	.74
to give unacceptable nicknames to other people	.67
to humiliate someone	.64
to force people doing something which they do not want to do	.58
to isolate someone from the group since he or she is somehow different	.55
to behave accordingly because someone is different	.48
to spread rumours about someone	.43

Confirmatory Factor Analysis

By utilizing the second data set, confirmatory factor analysis was performed on TBQ to examine how well the one factor model fit the present data.

As the evaluation criteria, the fit statistics of the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normed fit index (NFI), and, Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) were selected. The GFI, AGFI, CFI, NFI statistics range from 0 to 1, and values greater than .90 indicate a good model fit. For RMSEA, a value of .05 or less indicates a good fit, a value of .08 indicates a reasonable fit, and a value of .10 and higher indicates a poor fit (Byrne, 2001).

One factor model was tested. Results indicated an adequate model fit (GFI=.95, AGFI =.90, CFI=.89, NFI=.88, TLI=.84 and RMSEA= .09) for one factor model. Only the RMSEA indicated poor fit, to improve the model, modification indices were examined to determine whether additional paths can be added to the model. As a result of modification indices check,

adding correlation between error terms of items 1-3 and 6-7 (Figure 2) was decided. Indeed, items of these pairs are similar in content. Thus, there is theoretical justification for these statistical findings. After the addition of these correlation terms, results showed a good fit (GFI =.98, AGFI =.95, CFI=.95, NFI=.92, TLI=.91 and RMSEA = .06). All of the factor pattern coefficients were significant and ranged from .60 to .30. Therefore, the results suggested that the modified one factor model was confirmed with the present data. The internal consistency of the items was tested by Cronbach alpha coefficient and the alpha coefficient obtained in this study was .78.

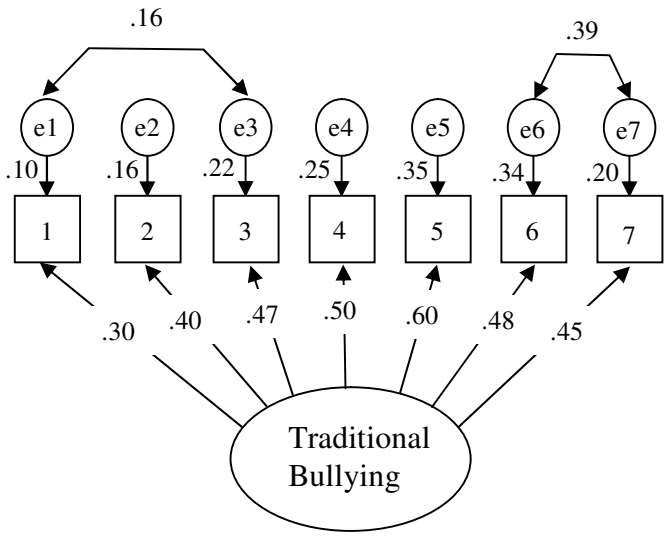

Figure 3.2 One-factor Model for TBQ

3.2.3. Basic Empathy Scale (BES)

Basic Empathy Scale was originally developed by Jolliffe and Farrington (2006). BES has 20 items, 9 of them measuring cognitive empathy and 11 of them measuring affective empathy on a five point Likert type scale (*1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4= Agree,*

5= Strongly Agree). The lowest score one can have from BES is 20, and the highest score one can have is 100. Before the analyses, 7 of the items were reverse coded. Therefore, higher scores indicated higher level of empathy.

3.2.3.1. The Adaptation Study of the BES

The first step of the adaptation process is the translations of the items into Turkish by four Turkish counsellors who are advanced in English. Then, an English literature expert translated the BES back into Turkish independently. Afterwards, two Turkish literature teachers evaluated the Turkish wording of the scale.

The scale was also read by the students in the focus group whose characteristics were defined in part 3.2.1.1. The students suggested no correction and as a result of the feedback provided by the students, no additional changes were made in the items. After all, a common translated version was evaluated by three independent experts. Similar to the focus group's students, experts did not suggest any correction. Sample items from the final version of the Turkish adaptation of BES were presented in Appendix C.

3.2.3.2. Validity and Reliability of BES

In order to show the factor structure of the BES, Jolliffe and Farrington (2006) conducted an exploratory factor analysis and found a two factors solution (affective and cognitive empathy). After that, a confirmatory factor analysis was carried out with a new data set. The GFA value was reported as 0.89, the AGFI as 0.86 and the RMSEA as 0.06. Finally, they concluded that BES had two factors measuring affective and cognitive empathy.

Jolliffe and Farrington (2006) reported the internal consistency coefficients as .85 for the affective scale, and .79 for the cognitive scale.

Confirmatory Factor Analysis I

Two confirmatory factor analyses were performed on BES to examine how well the original two factor model fit the present data with the first and second data set.

As the evaluation criteria, the fit statistics reported by the authors who developed the scale were selected; the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI) and, the root mean square error of approximation (RMSEA). The GFI and AGFI statistics range from 0 to 1, and values greater than .90 indicate a good model fit. For RMSEA, a value of .05 or less indicates a good fit, a value of.08 indicates a reasonable fit, and a value of .10 and higher indicates a poor fit (Byrne, 2001).

With the first data set, the model which specified a two-factor model as reported by the original developers of the BES was tested. Results of CFA yielded an inadequate model fit (GFI=.79, AGFI =.74, and RMSEA=.10). To improve the model, modification indices were examined to determine whether additional paths can be added to the model. As a result of modification indices check, adding correlation between error terms of items 7-8, 7-18, 8-18, 4-15, 14-16, 15-17, and 19-20 was decided. Indeed, items of these pairs are similar in content. Thus, there is theoretical justification for these statistical findings. After the addition of these correlation terms, results showed an acceptable fit (GFI = .88, AGFI =.84, and RMSEA =.07). All of the factor pattern coefficients were significant and ranged from .70 to .03. Therefore, the results suggested that the modified two factor model was confirmed with the first data set. The internal consistency of the items was

tested by Cronbach alpha coefficient and the alpha coefficient obtained for the affective empathy subscale was .74, for the cognitive empathy subscale was .79.

Confirmatory Factor Analysis II

The modified model was tested by utilizing the second data set. The findings indicated a better fit than the findings of the analyses performed with the first data set (GFI = .90, AGFI =.87, and RMSEA =.06). The entire factor pattern coefficients were significant and ranged from .74 to .26 (Figure 3). The results suggested that the modified two factor model was also confirmed with the second data set. The Cronbach alpha coefficient for the affective empathy was .76 and for the cognitive empathy was .80.

Theoretically Based Tests of Construct Validity

As stated in the Jolliffe and Farrington (2006) who were the original developers of the BES, in terms of gender difference in empathy scores of people, literature presented reliable information that is females' empathy level is higher than males (Lennon & Eisenberg, 1987). The findings of the present study provide evidence supporting this statement. According to the results, in line with the previous research studies, females scored higher than males for both affective empathy (F (1, 711) =143.56, p<.001, η^2=.20, large effect) and cognitive empathy (F (1, 711) =43.56, p<.001, η^2=.06, medium effect).

A further analysis conducted by Jolliffe and Farrington (2006) was calculating the correlation coefficient for affective empathy and cognitive empathy. According to the authors of the scale, although they seem to be measuring different aspects of empathy, there should be a positive and

significant correlation between affective and cognitive components of empathy. The correlation coefficient (r=.37, p<.01) for the current study yielded similar values to the original study.

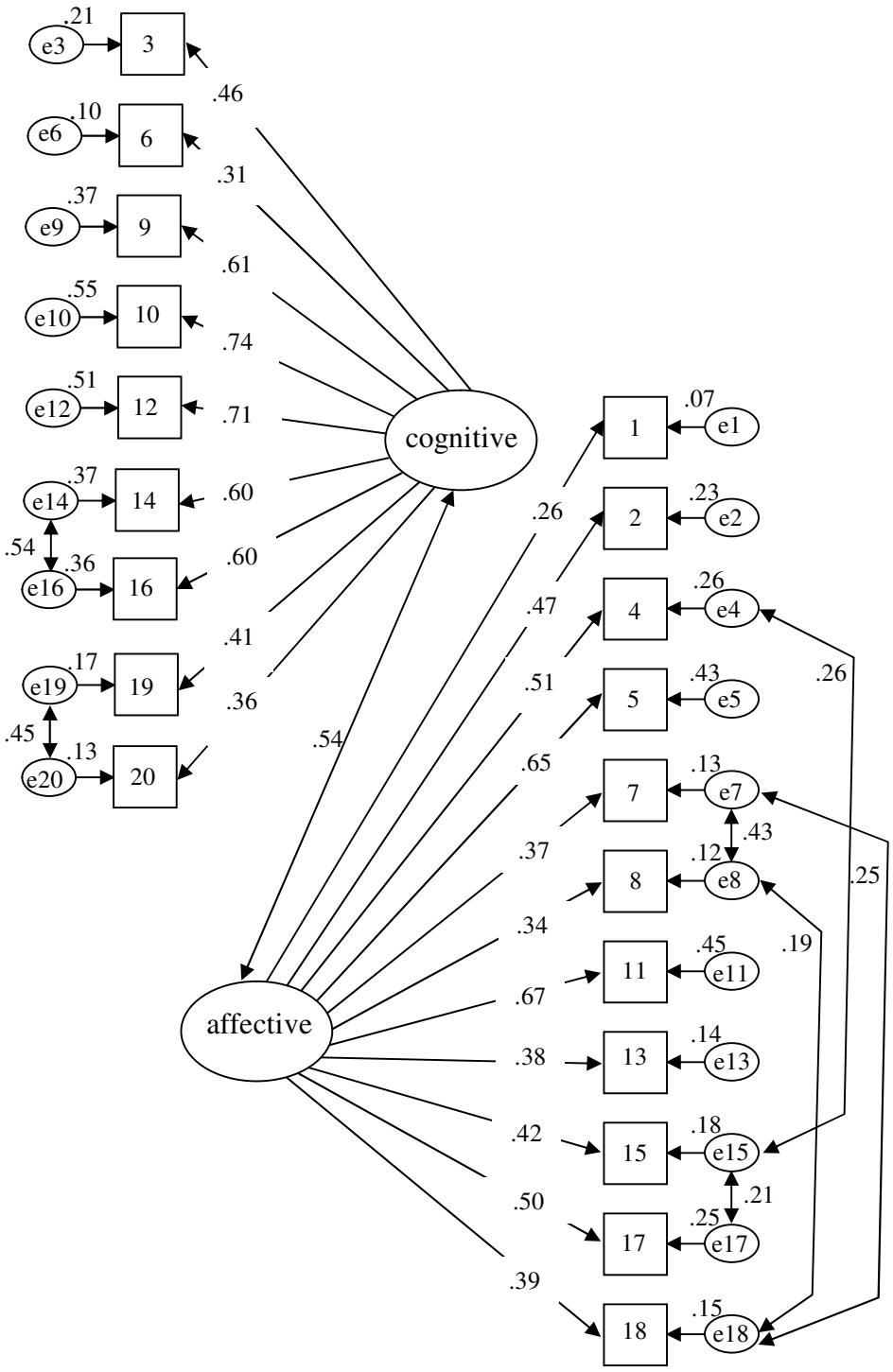

Figure 3.3 Two-factor Model for BES

3.2.4. Frequent Use of Information and Communication Tools (ICT)

Participants' information and communication technology usage frequency was asked via six questions. Participants were asked to rate their frequency usage of messenger, facebook, chat room, forum sites, e-mail, and SMS on a five point scale (*1= never, 2= once in a month 3= once a fortnight, 4= once or twice in a week, 5= every day*). The question was "How often do you use ___?" for each ICT and it was repeated for six ICT separately. Total scores were created by adding up each answer. The lowest score one can have was 6 and the highest score one can have was 30. Higher scores indicated more frequent use of ICT. The questions were evaluated by the focus group that was described in the 3.2.1.1. Afterwards, three experts inspected questions. Both the students in the focus group and the experts evaluated the items in terms of their age appropriateness and understandability. For the frequent usage of ICT questions, focus group members and experts did not make any suggestions. The Cronbach alpha coefficient was calculated for testing the reliability of the items and alpha was .67 for whole sample.

3.2.5. Adult Monitoring of the Internet Use

Adult monitoring of the Internet use was measured for the parental control at home and school personnel (teacher or principal) control at school while the youth was using computer and/or the Internet. After the literature review, 5 items were written for parental control and 5 items were written for school personnel control. Giving information about the cyber world, setting up filtering programs to the adolescent's computer, monitoring the web sites the adolescent is visiting, limiting the amount of time for using the Internet, and controlling the adolescent's Internet café visits were the items of control of the Internet use questions. Participants were asked to rate these statements on a scale of three (*1= they do, 2= they do not do, 3= the*

item is not applicable for me). If the adolescence answered the question as "they do" he or she had a score of 1 and if the adolescence answered the question as "they do not do" or "the item is not applicable for me" he or she had a score of 0. The total scores were created for parent control and school personnel control separately by adding five questions for each. The lowest score one can had was 0, and the highest score one can had was 5. Higher scores indicated more control. The questions were evaluated by the focus group that was described in the 3.2.1.1. Afterwards, three experts inspected questions. Both the students in the focus group and the experts evaluated the items in terms of their age appropriateness and understandability. For the adult monitoring of the Internet use questions, focus group members and experts did not make any suggestions. In order to test the reliability of the items, Cronbach alpha coefficients were calculated for adult monitoring at home and at school for whole sample and the values were .72 and .84, respectively.

3.2.6 Demographic Information Form

Age, gender, income, and parental education level of the participants were asked by a demographic form. In addition, questions asking whether the participant had a computer and Internet connection at home and at school (*1= yes, 2= no*), the frequency usage of Internet and computer (*1= never, 2= less than an hour, 3= 1-3 hours, 4= 4-7 hours, 5= 8-14 hours, 6= 15-25 hours, 7= 26-39 hours, 8= 40 hours or more*), visiting the Internet cafes (*1= every day, 2= once or twice in a week, 3= once a fortnight, 4= once in a month, 5= once in 4-5 months 6= never*), the parental computer literacy level (*1= better than me, 2= worse than me, 3= we are same*) were utilized. The demographic form was shown in Appendix D.

3.3. Data Collection Procedure

After obtaining the permission of the Middle East Technical University Human Subjects Ethics Committee, by means of convenient sampling university entrance exam private preparation courses were selected. The authorities of university entrance exam private preparation courses were visited and the aim, method and the procedure of the study was explained to the director and the psychological counselor of the private course and their collaboration was asked. After obtaining their cooperation and written permission for the application, the students were contacted at the day of application. The students were also given information about the purpose of the study and volunteered students participated to the study. Data were collected by optics questionnaires in 50 minutes class hour. A total of 1374 questionnaires were distributed and 1106 of them were returned. Therefore, the response rate was 80.5%. After collecting data in optics, the questionnaires were switched to the computer and coded in an SPSS file.

3.4. Description of Variables

Affective Empathy: The total scores of the Affective Empathy Subscale of Basic Empathy Scale.

Cognitive Empathy: The total scores of the Cognitive Empathy Subscale of Basic Empathy Scale.

Cyber Bullying: The total scores of the Cyber Bullying Inventory.

Traditional Bullying: The total scores of the Traditional Bullying Questionnaire.

Frequency Usage of Communication and Information Tools: The total scores of the questions asking for frequency usage of ICT.

Adult Monitoring at Home: The total scores of the questions asking for adult monitoring of the Internet use at home.

Adult Monitoring at School: The total scores of the questions asking for adult monitoring of the Internet use at school.

Gender: A dichotomous variable with categories of (1) female and (2) male. For multiple regression analysis, this variable was dummy coded as 0 for females and 1 for males.

3.5. Analysis of Data

Before starting to the main analyses, for the cyber bullying, traditional bullying, affective empathy and cognitive empathy scores, listwise deletion method was used for both data sets. For the other scores, cases including missing data more than 5% were eliminated. In order not to decrease variation, mean replacement was not carried out. In the first data set 184 cases were eliminated due to missing data and the sample size declined to 358 from 542. Similarly, in the second data set, 205 cases were eliminated due to missing data, and the sample size declined to 359 from 564. Therefore, the whole sample size declined to 717 from 1106. Preceding the main analyses, the validity and reliability tests of the scales were conducted which were summarized previously.

The first step of the analyses was to conduct descriptive statistics and examine the relationship between the demographic variables and the main variables by correlation coefficients. Second, the age and gender mean

differences on traditional bullying and cyber bullying were tested by MANOVA.

In order to examine role of gender as mediator and moderator in the traditional bullying and affective/cognitive empathy relationship and in the cyber bullying and affective/cognitive empathy relationship eight multiple regression analyses were carried out.

Finally, to investigate, how well traditional bullying, the frequency usage of ICT, adult monitoring of the Internet use predict cyber bullying hierarchical multiple regression analyses were conducted.

Prior to main analyses, assumptions were checked. The main assumptions for MANOVA were independence of observations, multivariate normality and homogeneity of population covariance matrix for dependent variables. All the assumptions were tested according to the tests and criteria suggested by Tabachnick & Fidell (2001). First, the scores of the participants on the variables are independent of each other and independence of observation assumption was assumed. Second, since SPSS can not offer a test for examining multivariate normality, univariate normality was tested for each dependent variable by skewness and kurtosis values, histograms, and Q-Q plots, Shapiro-Wilks' W test, Kolmogorov-Smirnov D test. Skewness and kurtosis values were close to zero which provided evidence for normality. Although Shapiro-Wilks' W test and Kolmogorov-Smirnov D test suggested significant results meaning deviations from normality, visual inspection of the histograms and Q-Q plots showed evidence for normality. Since the sample size was large enough (n=717) and violation of multivariate normality has small effect on Type I error and F test is robust to deviations from normality, multivariate normality was assumed.

Finally, homogeneity of population covariance matrix for dependent variables was tested through Box's M test and Levene's test which rejected the null hypothesis that the error variance of the dependent variable is equal across groups. However, F-test is robust to violation of this assumption when the sample sizes are large (Field, 2005). In the current study, the sample size was large (n=717). A double check was done by dividing the biggest variance by the smallest variance found for each analysis (Field, 2005). None of them was bigger than 2, therefore, homogeneity of population covariance matrix for dependent variables can be satisfied.

Preceding the multiple regression analyses, the major assumptions of multiple regression analyses were tested according to the tests and criteria by Field (2005). Assumptions were normally distributed errors, homoscedasticity, independent errors, linearity, and no multicollinearity, and influential observations (outlier and residual check).

In order to check the first assumption, normally distributed errors, histograms and normal p-p plots were examined. Although there were some deviations from the straight line in the normal p-p plots and histogram patterns were inspected and the normal distribution of the residuals assumption was assumed.

Second, in order not to violate the homoscedasticity assumption error term variance should be constant at levels of predictor variable (Field, 2005). For investigating the homoscedasticity assumption scatterplots were controlled and assumption was not violated.

As a third step, the independence of errors assumption was checked via the Durbin-Watson test which is supposed to be between 1.5 and 2.5. In the current study, all of the obtained values for Durbin-Watson the results were between the acceptable range.

Linearity assumption suggests a linear relationship between predictor and criterion variables. After the visual inspection of the residual plots, linearity of the relationship between predictor variables and criterion variable was assumed.

For testing no multicollinearity assumption, bivariate correlation coefficient, tolerance, and VIF values were examined. The correlation matrix for independent variables was checked and there was not correlation coefficients more than .90. The tolerance values were greater than .20 and VIF (Variance Inflation Factor) values were less than 4 (Tabachnick & Fidell, 2001). As a result, there is no evidence for multicollinearity for the current data and no multicollienarity was assumed.

Finally, influential observation assumption was tested by Mahalonobis distance test whether there are multivariate outliers in the data influencing the results. No outliers was found as a result of Mahalonobis distance inspection at $p<.001$ level.

As a result of the assumption testing for both MANOVA and multiple regression analyses data were found as appropriate to conduct the main analyses. For all the statistical analyses, significance level was chosen as .05. All the analyses were carried by SPSS 11.0 except confirmatory factor analyses which were conducted via AMOS 7.0 Graphics statistical program.

3.6. Limitations of the Study

As well as the strengths of the present study, it has several limitations. Some of the most important limitations were listed. First of all, in the present study participants' experiences were evaluated by self-report measurement tools due to practicality. Self-report tools always have the problem of social desirability and social desirability problem may confound the results. As

well as self-report, obtaining information from other sources (parent, teacher, peer reports) could give more reliable information.

Second, data were collected from the university entrance exam private preparation courses in Ankara and Sinop via convenient sampling. Therefore, the generalizability of the results is limited to adolescents aged between 13 and 21 attending a university entrance exam private preparation course for studying university entrance exam in Ankara and Sinop and coming from mostly middle SES.

Moreover, the present study utilized cross-sectional design while longitudinal design could not be adopted due to time limitation. Using longitudinal design would enrich the results and clarify the age related changes in cyber and traditional bullying experiences.

In most of the previous studies, cyber bullying was defined first and then participants were asked only one question "Have you ever done cyber bullying?" However, in the present study cyber bullying was measured by a questionnaire which listed diffperent acts of cyber bullying and participants were asked to rate themselves for each item. In the end, the total score of different acts were calculated. This methodological difference has both advantages and disadvantages. Listing different acts of cyber bullying provide more information to the adolescents instead of defining cyber bullying in general. However, at the same time, the listed items limited the cyber bullying experience to the stated items in the scale.

The scale utilized in the present study was either developed or adapted in Turkish recently. Regarding that they were unstandardized, for eliminating this limitation, the validity and reliability assessments were performed for the present data. However, the stated measurement tools need to be tested with diverse samples.

Before conducting data analysis missing data analysis were conducted in two ways. For the participants' traditional bullying, cyber bullying, and empathy (affective and cognitive) scores listwise deletion was done. For rest of the items in the questionnaire, cases including missing data more than 5% were eliminated. Deletion of cases with missing data may cause misleading results because the deleted cases may form a pattern. In order to control for this limitation missing cases were inspected and a random pattern for the deleted cases were obtained.

Finally, correlational methods were used in analyzing data and direct causal relationship can not be inferred. The findings of the study should be evaluated by considering the aforementioned limitations.

CHAPTER IV

RESULTS

The primary purpose of the present study was to examine the relationship of cyber bullying to empathy with respect to gender differences. In order to assess this relationship, traditional bullying and empathy relationship will be utilized by considering gender differences because cyber and traditional bullying was found as correlated. Additionally, the power of traditional bullying, frequent use of information and communication tools (ICT) and adult monitoring of the Internet use for predicting cyber bullying will be investigated.

In this chapter, the analyses and the findings of these analyses were reported. First, the demographic characteristics of those who reported repeated cyber bullying experience was reported. Then, the prevalence rates for traditional and cyber bullying for the present sample was presented. In addition, the relationship suggested by previous studies between cyber bullying and traditional bullying was evaluated. Later, findings of the preliminary analyses consisting of age and gender mean group differences in traditional and cyber bullying were presented. After that, the relationship of empathy to traditional and cyber bullying with respect to gender were tested. Finally, the results of regression analysis which was conducted to understand how well traditional bullying, the usage frequency of ICT and adult monitoring of the Internet use predict cyber bullying will be presented.

As mentioned in the first chapter the research questions which will be answered in the result section were: (1) What is the prevalence rate of traditional bullying and cyber bullying among females and males? (2) Is there a significant relationship between cyber bullying and traditional bullying? (3) Is there a significant mean difference in cyber bullying scores and traditional bullying scores of females and males with respect to age? (4) How well do traditional bullying, usage frequency of the ICT, and adult monitoring of Internet use predict the cyber bullying? (5) What is the relationship between traditional bullying and empathy with respect to gender? (6) What is the relationship between cyber bullying and empathy with respect to gender?

4.1. Demographic Characteristics Cyber Bullies

In Table 4.1, the demographic characteristics of the participants who stated that they engaged in cyber bullying more than once was reported. More than half (54.3%) of the participants who reported to engage in cyber bullying were attending to 11^{th} class and most of them (42.2%) reported that their monthly family income was between 1000 and 1999 YTL. While most of the mothers were high school (30.8%) and university (30.2%) graduates, majority of the fathers (38.4%) were university graduates. Father education level was higher than mother education level yet overall education level of the parents seemed to be high.

Table 4.1
Demographic Characteristics of Cyber Bullies

	Cyber Bullies	
	f	%
Class		
9th	15	4.4
10th	45	13.2
11th	185	54.3
High school graduate	60	17.6
Family income (Monthly)		
0-499 YTL	7	2.1
500-999 YTL	42	12.3
1000-1999 YTL	144	42.2
2000-2999 YTL	66	19.4
3000 YTL or more	69	20.2
Mother Education		
Illiterate	2	.6
Literate	2	.6
Primary School	70	20.5
Elementary School	46	13.5
High School	105	30.8
University	103	30.2
Master's	6	1.8
Doctorate	4	1.2
Father Education		
Illiterate	2	.6
Literate	0	0
Primary School	31	9.1
Elementary School	43	12.6
High School	103	30.2
University	131	38.4
Master's	21	6.2
Doctorate	5	1.5

According to Table 4.2, a great majority of the participants who said they involved in cyber bullying reported that they had a computer (87.4%) and an Internet connection (77.1%) at home. However, the computer (41.3%) and the Internet usage (35.2%) at school seem to be as not frequent as at home usage. Of the participants who stated that they engage in cyber bullying, 21.4% said that he or she used the Internet and/or computer between 1 and 3 hours; and 17.9% said that he or she used them between 4 and 7 hours

weekly; and 19.1% said he or she visited the Internet café once in a month. A large amount of them (76.8%) evaluated their parent's computer literacy level as worse than him or herself. In addition, 72.1% of them thought that their parents controlled their Internet use, while 51% of them thought that their Internet use was controlled by the school personnel.

Table 4.2
Computer and Internet Usage Information of Cyber Bullies

	Cyber Bullies	
	f	%
Using computer at home		
Yes	298	87.4
No	43	12.6
Connecting to the Internet at home		
Yes	263	77.1
No	46	13.5
Using computer at school		
Yes	141	41.3
No	197	57.8
Connecting to the Internet at school		
Yes	120	35.2
No	217	63.6
Weekly computer/Internet usage		
Never	15	4.4
Less than an hour	24	7
1-3 hours	73	21.4
4-7 hours	61	17.9
8-14 hours	50	14.7
15-25 hours	29	8.5
26-39 hours	11	3.2
40 hours or more	16	4.7
Visiting the Internet café		
Every day	11	3.2
Once or twice in a week	52	15.2
Once a fortnight	34	10
Once in a month	65	19.1
4-5 times in a month	25	7.3
Never	153	44.9
Parental computer literacy level		
Better than me	22	6.5
Worse than me	262	76.8
At the same level with me	53	15.5

Table 4.2 *(cont.)*
Computer and Internet Usage Information of Cyber Bullies

	Cyber Bullies	
	f	%
Internet use controlled by parents		
Control	246	72.1
No control	95	27.9
Internet use controlled by school personnel		
Control	174	51
No control	167	49

Finally, Table 4.3 summarized the frequency of ICT usage for those who said that they have cyber bullying experience. Nearly all of the participants who stated that they have cyber bullying experience (95%) stated that they were using messenger. Similarly, SMS usage seemed to be high (95.3%) among those who said that they involved in cyber bullying. Moreover, e-mail was the third frequently reported tool for those who reported to engage in cyber bullying (82.1%). Forum site usage was also frequent (61.6%) among participants who said that they have cyber bullying experience. However, facebook and chat room usage was less frequent.

Table 4.3
The Usage Frequency of ICT for Cyber Bullies

	Cyber Bullies	
	f	%
Messenger		
Use	324	95
Not use	15	4.4
Facebook		
Use	128	37.5
Not use	202	59.2
Chat room		
Use	55	16.1
Not use	280	82.1
Forum sites		
Use	210	61.6
Not use	120	35.2
E-mail		
Use	280	82.1
Not use	55	16.1
SMS		
Use	325	95.3
Not use	11	3.2

4.2. The Prevalence Rates of Traditional and Cyber Bullying for the Present Sample

Prevalence Rates of Traditional Bullying for the Present Sample

Of the total 717 students, 396 (55.2%) reported to engage in traditional bullying. Among the female participants 50.6% and among the male participants 61.6% reported to involved in traditional bullying (Table 4.4). There is a significant mean difference between male and female participants in terms of traditional bullying experience (F (1, 711) =15.95, p<.001, η^2=.02, small effect). Males (M=11; SD= 4.17) traditional bully others more than females (M=9.84; SD= 3.57). The gender distribution among the categories of no experience, experience once, and repeated experience was analyzed by Chi square tests. The assumptions of Chi square test was met;

that is level of measurement was nominal and no cell had an expected frequency of lower than 5. The Chi square test yielded in significant results indicating relationship between gender and traditional bullying experience (χ^2 (2, N=713) =12.656, p<.01). Of the females, 36.7% reported to have no experience of traditional bullying, 12.7% reported to have experience traditional bullying once, and 50.6% reported to have repeated experience of traditional bullying. Of the males, 32.5% reported to have no experience of traditional bullying, 6% reported to have experience traditional bullying once, and 61.6% reported to have repeated experience of traditional bullying.

Table 4.4
Prevalence Rate of Traditional Bullying for the Present Sample

	f	%
Male		
No experience	98	32.5
Experience once	18	6
Repeated Experience	186	61.6
Female		
No experience	151	36.7
Experience once	52	12.7
Repeated Experience	208	50.6
Total Sample		
No experience	250	34.9
Experience once	71	9.9
Repeated Experience	396	55.2

The most common ways of traditional bullying among those who reported repeated traditional bullying were: fooling (30.6%), giving unacceptable nicknames to other people (27.1%), to force people doing something which they do not want to do (16.6%). Table 4.5 shows the frequency of acts of traditional bullying.

Table 4.5
Prevalence of the Traditional Bullying Items

	f	%
to fool someone	184	30.6
to give unacceptable nicknames to other people	163	27.1
to force people doing something which they do not want to do	100	16.6
to spread rumours about someone	88	14.6
to behave accordingly because someone is different	59	9.8
to humiliate someone	54	9
to isolate someone from the group since he or she is somehow different	47	7.8

Prevalence Rates of Cyber Bullying for the Present Sample

Of the total 717 students, 341 (47.6%) reported to engage in cyber bullying. Among the female participants 40.1% and among the male participants 57.6% reported to involve in cyber bullying (Table 4.6). There is a significant mean difference between male and female participants in terms of cyber bullying experience (F (1, 711) =72.21, p<.001, η^2=.02, medium effect). Males (M=30.58; SD= 9.01) cyber bully others more than females (M=26.37; SD= 3.82). The gender distribution among the categories of no experience, experience once, and repeated experience was analyzed by Chi square tests. The assumptions of Chi square test was met; that is level of measurement was nominal and no cell had an expected frequency of lower than 5. The Chi square test yielded in significant results indicating relationship between gender and cyber bullying experience (χ^2 (2, N=713) =21.747, p<.001). Of the females, 52.1% reported to have no experience of cyber bullying, 7.8% reported to have experience cyber bullying once, and 40.1% reported to have repeated experience of cyber bullying. Of the males, 35.8% reported to have no experience of cyber bullying, 6.6% reported to have experience cyber bullying once, and 57.6% reported to have repeated experience of cyber bullying.

Table 4.6
Prevalence Rate of Cyber Bullying for the Present Sample

	f	%
Male		
No experience	108	35.8
Experience once	20	6.6
Repeated Experience	174	57.6
Female		
No experience	214	52.1
Experience once	32	7.8
Repeated Experience	165	40.1
Total Sample		
No experience	324	45.2
Experience once	52	7.3
Repeated Experience	341	47.6

As Table 4.7 shows, the most common ways of cyber bullying among those who reported repeated cyber bullying were: humiliating someone due to commands or information written on a forum site (14.6%), taking personal information from computer without permission of the owner (14%), blocking someone to use messenger (13.1%).

Table 4.7
Prevalence of the Cyber Bullying Items

	f	%
to humiliate someone due to commands or information written on a forum site	88	14.6
to take personal information from computer without permission of the owner	84	14
to block someone to use messenger	79	13.1
to send threatening, embarrassing, hurtful SMSs	60	10
to deceive someone by lying about the gender	59	9.8
to insult someone in the chat room	53	8.8
to violate the privacy of someone via web cam	46	7.6

Table 4.7 *(cont.)*
Prevalence of the Cyber Bullying Items

	f	%
to take embarrassing photos of someone secretly	38	6.3
to reach e-mails of someone by stealing account passwords	37	6.1
to block the accounts of someone by stealing account passwords	36	6
to form a group opposed to someone or exclude him or her from the group in a forum site	35	5.8
to use screen name of someone without taking permission	29	4.8
to threaten someone in chat room	29	4.8
to kick someone out of the chat room without a reason	23	3.8
to send threatening, embarrassing, hurtful e-mails	23	3.8
to humiliate someone without a reason in a forum site	20	3.3
to spread rumours about someone in the Internet	19	3.2
to humiliate someone by using fake photos	15	2.5
to spread information shared by messenger to others without permission	13	2.2
to been cancelled of the account by the admin of the forum sites	13	2.2
to been hurt as a result of a Internet friendship	12	2
to offer sexual relationship in chat room	12	2
to activate the web cam of another person secretly	8	1.3
to send embarrassing photos of someone to others without permission	11	1.8
to spread personal information and secret of someone to others without permission	7	1.2
to set up web pages or groups embarrassing, slandering someone in friendship sites such as Facebook, Yonja.	4	0.7

4.3. The Relationship between Cyber Bullying and Traditional Bullying

For the purpose of examining the relationship between cyber bullying and traditional bullying Phi coefficient was calculated because both cyber bullying and traditional bullying were coded as dichotomous (bullies and non-bullies) for this analysis. Traditional bullying and cyber bullying were found to be correlated significantly ($\varphi = .435$, $p<.001$).

4.4. Age and Gender Mean Group Differences in Traditional and Cyber Bullying

A 2 (gender) X 7 (age group) between-subjects multivariate analysis of variance (MANOVA) was performed on two dependent variables: traditional bullying and cyber bullying. The age range of the participants was 13 to 21 and age was grouped into seven categories. Those who are at the age of 13 and 14; and 20 and 21 were added up due to low cell size. Means and standard deviations of the traditional and cyber bullying with regard to age and gender were presented in Table 4.8.

With the use of Wilks' criterion, the combined DVs were significantly affected by gender, (Wilks's $\lambda = .96$, F (2, 687) = 13.49, $p < .001$, $\eta^2 = .04$, small effect) but not by age (Wilks's $\lambda = .97$, F (12, 1374) = 1.54, $p = .10$) and interaction of age and gender (Wilks's $\lambda = .98$, F (12, 1374) = 1.34, $p = .19$).

Table 4.8
Means and Standard Deviations for Traditional and Cyber Bullying

		Traditional Bullying		Cyber Bullying		
		M	*SD*	*M*	*SD*	*N*
Female	Age					
	13-14	9.04	3.57	25.17	2.2	51
	15	9.39	3.05	25.44	2.38	18
	16	9.16	2.63	26.40	4.16	57
	17	10	3.75	26.72	3.98	166
	18	10.3	3.46	26.20	3.39	90
	19	11.59	4.40	28.53	6.75	17
	20-21	8.25	2.19	26.87	3.64	8
	Total	9.83	3.53	26.39	3.83	407

Table 4.8 *(cont.)*
Means and Standard Deviations for Traditional and Cyber Bullying

		Traditional Bullying		Cyber Bullying		
		M	*SD*	*M*	*SD*	*N*
Male	Age					
	13-14	10.63	4.25	27.33	5.58	30
	15	11.83	4.89	30.94	9.83	18
	16	10.36	3.85	31.26	10.35	42
	17	11.17	3.94	31.42	9.27	108
	18	11.21	4.51	31.05	9.55	65
	19	10.21	4.23	29.63	6.47	19
	20-21	11.92	4.40	28.08	4.97	13
	Total	11.02	4.18	30.61	8.95	295
Total	Age					
	13-14	9.63	3.89	25.99	3.92	81
	15	10.61	4.20	28.19	7.58	36
	16	9.66	3.24	28.46	7.78	99
	17	10.46	3.86	28.57	6.96	274
	18	10.68	3.95	28.23	7.09	155
	19	10.86	4.31	29.11	6.54	36
	20-21	10.52	4.08	27.62	4.45	21
	Total	10.33	3.86	28.16	6.81	702

For univariate analyses, a significant main effect for gender on traditional bullying (F (1, 688) = 11.37, p<.01, η^2=.02, small effect) and on cyber bullying (F (1, 688) = 25.26, p<.001, η^2=.04, small effect) was found. The main effect of age on traditional bullying (F (6, 688) = 1.2, p= .31) and on cyber bullying (F (6, 688) = 2.03, p=.06) were not significant. Similarly, the interaction effect of age and gender on traditional bullying (F (6, 688) = 1.26, p= .27) and on cyber bullying (F (6, 688) = 1.07, p=.38) were not significant. The gender mean scores revealed that males engaged in traditional bullying more than females across all age groups for traditional bullying (Figure 4.1) and for cyber bullying (Figure 4.2) but the η^2 values were very small. Although the findings were not statistically significant, it was interesting that at the age of 19, females' traditional bullying scores were higher than males' scores. In a similar way, although the findings were

not statistically significant, the cyber bullying scores of females and males were close to each other at the age of 13-14 and after 18, while between these ages the scores of females were lower than males.

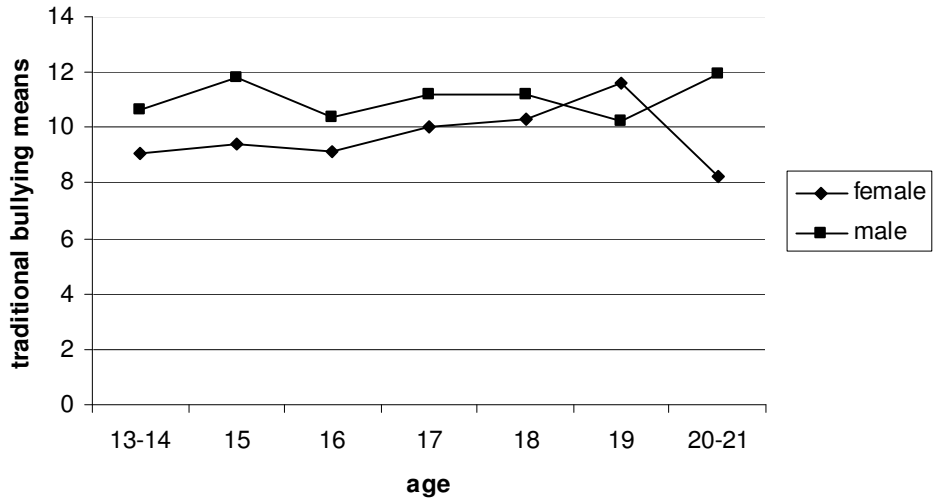

Figure 4.1 Means for traditional bullying for each gender across age

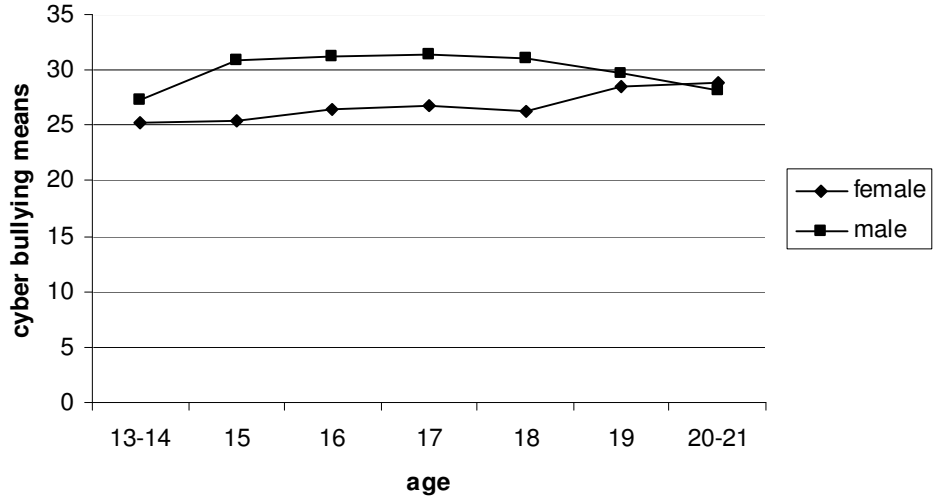

Figure 4.2 Means for cyber bullying for each gender across age

4.5. The Relationship of Cyber Bulling to Traditional Bullying, ICT use and Adult Monitoring of the Internet Use

The characteristics of a cyber bully was presented by means of findings of multiple regression analysis which was carried out to examine how well usage traditional bullying, usage frequency of ICT, and adult monitoring of the Internet use predicted cyber bullying in a model. Hierarchical multiple regression was utilized and the variables were entered according to how much variance they explained in the previous analyses and reported in the literature. In the first step traditional bullying was entered because it was found as one of the strongest significant predictors of cyber bullying. Second, frequent usage of ICT was entered since its relation to cyber bullying was also tested and a positive relationship was suggested in the literature. Finally, adult monitoring of the Internet use separately for parents and school personnel were entered in the analysis because the role of adult monitoring was novel and required to be examined after eliminating the variance of other factors. Results can be seen in Table 4.9.

Table 4.9
Results of the Multiple Regression Analysis: Predicting Cyber Bullying from Traditional Bullying, Frequent Usage of ICT, Adult Monitoring of the Internet Use

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Traditional Bullying	0.79	0.06	.45	13.43***	.45
Step 2					
Traditional Bullying	0.74	0.06	.42	13.05***	.42
ICT Usage	0.39	0.05	.27	8.45***	.27
Step 3					
Traditional Bullying	0.74	0.06	.42	12.88***	.41
ICT Usage	0.39	0.05	.27	8.49***	.27
Monitoring at home	-0.17	0.16	-.04	-1.11	-.03
Monitoring at school	-0.26	0.15	-.06	-1.74	-.05

Note. R^2 = .20 for Step 1; ΔR^2 = .27 for Step 2 (p<.001);
ΔR^2 = .28 for Step 3 (p<.05)
***p<.001.

Findings suggested R was significantly different from zero at the end of each step. After step 1, with traditional bullying in the equation R^2= .20, F (1, 715) =180.43, p<.001. After step 2, with frequent use of ICT added to the prediction of cyber bullying by traditional bullying, R^2= .27, F (2, 714) =134.81, p<.001. After step 3, with adult monitoring of the Internet use added to the prediction of cyber bullying, R^2= .28, (ΔR^2 =.28), F (4, 712) =69.3, p<.001. In addition to statistical significance of the findings, R^2 values indicated practical significance because they were large. Traditional bullying and ICT usage was found as significant predictors of cyber bullying. Moreover, after controlling the variance of these two variables, adult monitoring of the Internet use was entered in the analyses. Monitoring neither at school nor at home was found as significant predictors of engaging in cyber bullying.

4.6. The Relationship between Traditional Bullying and Affective/Cognitive Empathy with respect to Mediational and Moderational Roles of Gender

For the purpose of analyzing the relationship between traditional bullying and empathy first a mediation analysis by keeping gender as an intervening variable was conducted. Keeping gender as mediator was decided as a result of information in the literature because females' empathy level was reported as high while males' bullying scores were reported as high. The preliminary analyses of the present study also revealed similar results as reported above (Table 4.10 and Table 4.11). Two mediation analyses were tested. In the first one, the independent variable was affective empathy, the mediator was gender, and the dependent variable was traditional bullying. In the second mediation analysis, the independent variable was cognitive empathy, the mediator was gender, and the dependent variable was traditional bullying. Mediation analyses were conducted through multiple regressions. Significant mediation explained why the found relationship occurred between the independent and dependent variable (Baron & Kenny, 1986).

Before conducting the multiple regression analyses for investigating the mediator relationship, Baron and Kenny (1986)'s required steps for testing the mediation hypotheses were tested. These were:

1- *There must be a relationship between independent variable and the mediator*. In order to test the relationship between independent variable and mediator, one-way ANOVA was conducted. The results of the ANOVA can be seen in Table 4.10 for both affective empathy-gender and cognitive empathy-gender relationships.

Table 4.10
The One-way ANOVA Results for Gender Difference in Affective Empathy and Cognitive Empathy Level

	SS	*df*	*MS*	*F*	η^2
Affective Empathy					
Between Groups	6189.61	1	6189.61	143.56***	.20
Within Groups	30655.2	711	43.12		
Total	36844.81	712			
Cognitive Empathy					
Between Groups	1191.57	1	1191.57	43.54***	.06
Within Groups	19459.49	711	27.37		
Total	20651.06	712			

***p<.001

The first requirement was met for both affective empathy-gender and cognitive empathy-gender relationship because the ANOVA results were significant F values which indicated that females' empathy level was significantly higher than males' empathy level for both affective and cognitive empathy. The η^2 values indicated a large effect for affective empathy and medium effect for cognitive empathy.

2- *There must be relationship between mediator and dependent variable*. For testing the relationship between traditional bullying and gender, one-way ANOVA was conducted. The results of the ANOVA can be seen in Table 4.11.

Table 4.11
The One-way ANOVA Results for Gender Difference in Traditional Bullying

	SS	*df*	*MS*	*F*	η^2
Traditional Bullying					
Between Groups	234.48	1	234.48	15.95	.02
Within Groups	10449.4	711	14.70		
Total	10683.88	712			

***p<.001

Therefore, the second required step of the mediational analyses was also supported because there is a significant mean difference in traditional bullying scores of females and males. That is males traditional bullying experience was significantly higher than females' traditional bullying experience. The η^2 value signified a small effect.

3- *There must be a relationship between independent and dependent variables.* In order to evaluate the relationship between independent and the dependent variables a regression analysis was carried out and the results were presented in Table 4.12 for affective empathy and traditional bullying; and in Table 4.13 for cognitive empathy and traditional bullying.

Table 4.12
The Regression Results of the Relationship between Affective Empathy and Traditional Bullying

Variable	*B*	*SE B*	*β*	*t*	*Semi-partial correlation*
Affective empathy	-0.6	0.02	-.12	-3.17**	-.12

Note. R^2 = .02.
**p<.01.

Table 4.13
The Regression Results of the Relationship between Cognitive Empathy and Traditional Bullying

Variable	*B*	*SE B*	*β*	*t*	*Semi-partial correlation*
Cognitive empathy	-0.06	0.03	-.08	-2.16*	-.08

Note. R^2 = .01.
*p<.05.

Although the results showed statistically significant findings, practical significance was not large because the R^2 values were found as very small. Since all three requirements were met, mediation analyses can be conducted.

Mediation Analyses for Traditional Bullying and Empathy

After testing the requirements for mediation analyses, two mediation analyses were carried out for testing the traditional bullying and empathy relationship. In the first one, affective empathy was the independent variable, gender was the mediator, and traditional bullying was the dependent variable. Results of the regression analysis were presented in Table 4.14.

Table 4.14
Testing the Mediational Role of Gender in the Relationship between Affective Empathy Level and Traditional Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Affective Empathy	-0.06	0.02	-.12	-3.23**	-.12
Step 2					
Affective Empathy	-0.04	0.02	-.07	-1.76	-.06
Gender	0.93	0.32	.12	2.92**	.11

Note. R^2 = .01 for Step 1; ΔR^2 = .02 for Step 2 (p<.01).
**p<.01.

Findings suggested that *R* was significantly different from zero at the end of both of the two steps. After step 1, with affective empathy in the equation R^2= .01, F (1, 711) =10.45, p<.01. After step 2, with gender added to the prediction of traditional bullying by affective empathy, R^2= .02, F (1, 710) =9.56, p<.001. Affective empathy was a significant predictor of traditional

bullying. However, when gender and affective empathy were entered together in the regression analysis, the effect of affective empathy on traditional bullying disappeared and the relationship between gender and traditional bullying was significant as well as the main effect of affective empathy but R^2 values were very small. According to Baron and Kenny (1986) these indicated a full mediation. Therefore, gender is a full mediator in the relationship between affective empathy and traditional bullying. Specifically, gender plays important role in explaining the relationship between empathy and traditional bullying.

Table 4.15
Testing the Mediational Role of Gender in the Relationship between Cognitive Empathy Level and Traditional Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Cognitive Empathy	-0.06	0.03	-.08	-2.15*	-.08
Step 2					
Cognitive Empathy	-0.03	0.03	-.05	-1.25	-.05
Gender	1.07	0.30	.14	3.58***	.13

Note. R^2 = .01 for Step 1 (p<.05); Δ R^2 = .02 for Step 2 (p<.001).
*p<.05, ***p<.001.

Second regression analysis was conducted with three variables, cognitive empathy as the independent variable, gender as the mediator, and traditional bullying as the dependent variable. Results can be seen in Table 4.15. Findings suggested R was significantly different from zero at the end of both of the two steps. After step 1, with cognitive empathy in the equation R^2= .01, F (1, 711) =4.64, p<.05. After step 2, with gender added to the prediction of traditional bullying by cognitive empathy, R^2= .02, F (1, 710) =8.76, p<.001. Cognitive empathy was a significant predictor of traditional bullying. However, when gender and cognitive empathy were entered

together in the regression analysis, the effect of cognitive empathy on traditional bullying was no longer significant yet the relationship between gender and traditional bullying was significant but R^2 values were very small. This result indicated a full mediation according to Baron and Kenny (1986). Therefore, gender is a mediator in the relationship between cognitive empathy and traditional bullying. Specifically, gender explains the relationship between cognitive empathy and traditional bullying and gender of the person has an effect on this relationship.

Moderation Analyses for Traditional Bullying and Empathy

Significant moderation resulted in a difference in the relationship between independent and dependent variable among the levels of moderator variable (Baron & Kenny, 1986). The analysis whether gender moderated the relationship between traditional bullying and empathy (separately for affective and cognitive empathy) was conducted by multiple regression analysis. Two three-step hierarchical regression analyses were conducted using traditional bullying as the dependent variable. In the first regression analysis the independent variable was affective empathy and in the second regression analysis the independent variable was cognitive empathy. Gender was the moderator variable in both regression analyses. Independent variables were entered in the first step in order to examine its relationship before including the moderator variable (Holmbeck, 2002) which was gender in the present study. In the second step the moderator variable was entered and in the third step the interaction of the independent variable and moderator variable was entered. Before conducting the regression analyses, the independent variables and moderator need to be centralized (Baron & Kenny, 1986). The cognitive and affective empathy scores' means were subtracted from total scores of affective and cognitive empathy. Since the moderator variable was dichotomous, it was dummy coded as 0=female and

1=male (Baron & Kenny, 1986).

Table 4.16 showed the results of the first regression analysis. Findings suggested *R* was significantly different from zero at the end of each step. After step 1, with affective empathy in the equation R^2= .01, *F* (1, 711) =10.45, *p*<.01. After step 2, with gender added to the prediction of traditional bullying by affective empathy, R^2= .03, (ΔR^2 =.02), F (2, 710) =9.56, *p*<.001. After step 3, with the interaction of gender and affective empathy added to the prediction of traditional bullying, R^2= .03, (ΔR^2 =.02), *F* (3, 709) =6.48, *p*<.001. Main effect of affective empathy and main effect of gender were proved to be significant predictors of traditional bullying. However, the interaction of gender and affective empathy was not significant. Therefore, the negative relationship between the affective empathy level and traditional bullying did not differ among the levels of gender that is being male or female did not determine the direction of the relationship between traditional bullying and affective empathy.

Table 4.16
Testing the Moderation Role of Gender in the Relationship between Affective Empathy and Traditional Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Affective Empathy	-0.06	0.02	-.12	-3.23**	-.12
Step 2					
Affective Empathy	-0.04	0.02	-.07	-1.76	-.06
Gender	0.93	0.32	.12	2.92**	.11
Step 3					
Affective Empathy	-0.05	0.03	-.09	-1.74	-.06
Gender	0.96	0.32	.12	2.98**	.11
Affec. Emp.XGender	0.03	0.04	.03	.59	.02

Note. R^2 = .01 for Step 1; ΔR^2 = .02 for Step 2 (*p*<.01);
ΔR^2 =.02 for Step 3 (*p*=.56).
**p<.01.

Table 4.17 presented the results of the second regression analysis in which the independent variable was cognitive empathy, moderator variable was gender and the dependent variable was traditional bullying.

Table 4.17
Testing the Moderation Role of Gender in the Relationship between Cognitive Empathy and Traditional Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Cognitive Empathy	-0.06	0.03	-.08	-2.15*	-.08
Step 2					
Cognitive Empathy	-0.03	0.03	-.05	-1.25	-.05
Gender	1.07	0.30	.14	3.58***	.13
Step 3					
Cognitive Empathy	-0.07	0.04	-.10	-1.92	-.07
Gender	1.1	0.30	.14	3.68***	.14
Cogn. Emp.XGender	0.08	0.05	.07	1.48	.05

Note. R^2 = .01 for Step 1(p<.05); ΔR^2 = .02 for Step 2 (p<.01); ΔR^2 =.02 for Step 3 (p=.14).
* p<.05, ***p<.001.

Findings suggested *R* was significantly different from zero at the end of each step. After step 1, with cognitive empathy in the equation R^2= .01, F (1, 711) =4.64, p<.05. After step 2, with gender added to the prediction of traditional bullying by cognitive empathy, R^2= .02, (ΔR^2 =.02), F (2, 710) =8.76, p<.001. After step 3, with the interaction of gender and cognitive empathy added to the prediction of traditional bullying, R^2= .03, (ΔR^2 =.02), F (3, 709) =6.59, p<.001. According to the results of the regression analysis both the main effect of gender and main effect of cognitive empathy was significant in predicting traditional bullying. However, the interaction of gender and cognitive empathy were not significant in

predicting traditional bullying. Therefore, gender does not moderate the relationship between cognitive empathy and traditional bullying that is to say the negative relationship between cognitive empathy and traditional bullying did not differ between females and males.

4.7. The Relationship between Cyber Bullying and Affective/Cognitive Empathy with respect to Mediational and Moderational Roles of Gender

For the purpose of analyzing the relationship between cyber bullying and empathy first a mediation analysis by keeping gender as an intervening variable was conducted. Keeping gender as mediator was decided as a result of information in the literature because females' empathy level was reported as high while males' cyber bullying scores were reported as high. The findings of the present data supported the literature (Table 4.10 and Table 4.18). Two mediation analyses were tested. In the first one the independent variable was affective empathy, the mediator was gender, and the dependent variable was cyber bullying. In the second mediation analysis, the independent variable was cognitive empathy, the mediator was gender, and the dependent variable was cyber bullying. Mediation analyses were conducted through multiple regressions. Significant mediation explained in which condition the relationship between the independent and dependent variable occurred (Baron & Kenny, 1986).

Before conducting the multiple regression analyses for investigating the mediator relationship, Baron and Kenny (1986)'s required steps for testing the mediation hypotheses were tested. These were:

1- *There must be a relationship between independent variable and the mediator*. In order to test the relationship between independent variable and

mediator, one-way ANOVA was conducted (Table 4.10). The first condition was supported for both affective empathy-gender (F (1, 711) =143.56, p<.001, η^2=.20, large effect) and cognitive empathy-gender (F (1, 711) =43.56, p<.001, η^2=.06, medium effect) relationship because the ANOVA results were significant indicating that females' empathy level was significantly higher than males' empathy level for both affective and cognitive empathy.

2- *There must be relationship between mediator and dependent variable*. For testing the relationship between dependent variable and mediator, one-way ANOVA was conducted. The results of the ANOVA can be seen in Table 4.18.

Table 4.18
The One-way ANOVA Results for Gender Difference in Cyber Bullying

	SS	*df*	*MS*	*F*	η^2
Cyber Bullying					
Between Groups	3089.81	1	3089.81	72.21***	.10
Within Groups	30423.22	711	42.79		
Total	33513.03	712			

***p<.001

Therefore, the second required step of the mediational analyses was also supported because there is a significant mean difference in cyber bullying scores of females and males. That is, males' cyber bullying experience was significantly higher than females' cyber bullying experience. The η^2 value signified a medium effect.

3- *There must be a relationship between independent and dependent variables.* In order to evaluate the relationship between independent and the dependent variables a regression analysis was carried out and the results

were presented in Table 4.19 for affective empathy and cyber bullying; and in Table 4.20 cognitive empathy and cyber bullying.

Table 4.19
The Regression Results of the Relationship between Affective Empathy and Cyber Bullying

Variable	*B*	*SE B*	*β*	*t*	*Semi-partial correlation*
Affective empathy	-0.15	0.03	-.15	-4.17***	-.15

Note. R^2 =.02.
***p<.001.

Table 4.20
The Regression Results of the Relationship between Cognitive Empathy and Cyber Bullying

Variable	*B*	*SE B*	*β*	*t*	*Semi-partial correlation*
Cognitive empathy	-0.11	0.05	-.08	-2.25*	-.08

Note. R^2 = .01.
*p<.05.

Although the results showed statistically significant findings, practical significance was not large because the R^2 values were found as very small. Since all three requirements were met, mediation analyses can be conducted.

Mediation Analyses for Cyber Bullying and Empathy

After testing the requirements for mediational analyses, two mediation analyses were conducted. In the first analysis, affective empathy was the independent variable, gender was the mediator, and cyber bullying was the dependent variable. Results of the regression analysis were presented in Table 4.21.

Table 4.21
Testing the Mediational Role of Gender in the Relationship between Affective Empathy Level and Cyber Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Affective Empathy	-0.15	0.03	-.15	-4.16***	-.15
Step 2					
Affective Empathy	-0.03	0.04	-.04	-0.92	-.03
Gender	4.01	0.54	.29	7.37***	.26

Note. R^2 = .03 for Step 1; Δ R^2 = .09 for Step 2 (p<.001).
***p<.001.

Findings suggested that R was significantly different from zero at the end of both of the two steps. After step 1, with affective empathy in the equation R^2= .02, F (1,711) =17.35, p<.001. After step 2, with gender added to the prediction of cyber bullying by affective empathy, R^2= .09, F (1,710) =36.52, p<.001. Affective empathy was a significant predictor of cyber bullying. However, when gender and affective empathy was entered together in the regression analysis, the effect of affective empathy on cyber bullying was no longer significant yet the relationship between gender and traditional bullying was significant but R^2 values were very small. According to Baron and Kenny (1986) this result indicated a full mediation. Therefore, gender is a mediator in the relationship between affective empathy and cyber bullying. Specifically, gender explains the relationship between empathy and cyber bullying.

Table 4.22
Testing the Mediational Role of Gender in the Relationship between Cognitive Empathy Level and Cyber Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Cognitive Empathy	-0.11	0.05	-.08	-2.23*	-.08
Step 2					
Cognitive Empathy	-0.01	0.05	-.01	-.30	-.01
Gender	4.18	0.51	.30	8.17***	.29

Note. R^2 = .01 for Step 1 (p<.05); Δ R^2 = .09 for Step 2 (p<.001).
*p<.05, ***p<.001.

Second regression analysis was conducted with three variables, cognitive empathy as the independent variable, gender as the mediator, and cyber bullying as the dependent variable. Results can be seen in Table 4.22. Findings suggested R was significantly different from zero at the end of both of the two steps. After step 1, with cognitive empathy in the equation R^2= .01, F (1, 711) =4.99, p<.05. After step 2, with gender added to the prediction of cyber bullying by cognitive empathy, R^2= .09, F (1, 710) =36.1, p<.001. Findings suggested that cognitive empathy was a significant predictor of cyber bullying. However, when gender and cognitive empathy were entered together in the regression analysis, the effect of cognitive empathy on cyber bullying was no longer significant yet the relationship between gender and cyber bullying was significant but R^2 values were very small. This result indicated a full mediation according to Baron and Kenny (1986). Therefore, gender is a mediator in the relationship between cognitive empathy and cyber bullying like as it was in affective empathy and traditional bullying relationship. Specifically, gender explains the relationship between cognitive empathy and cyber bullying and gender of the person has an effect on this relationship.

Moderation Analyses for Cyber Bullying and Empathy

Significant moderation resulted in a difference in the relationship between independent and dependent variable among the levels of moderator variable (Baron & Kenny, 1986). The analysis whether gender moderated the relationship between cyber bullying and empathy (separately for affective and cognitive empathy) was conducted by multiple regression analysis. Two three-step hierarchical regression analyses were conducted using cyber bullying as the dependent variable. In the first regression analysis the independent variable was affective empathy and in the second regression analysis the independent variable was cognitive empathy. Gender was the moderator variable in both regression analyses. Independent variables were entered in the first step in order to examine its relationship before including the moderator variable (Holmbeck, 2002) which was gender in the present study. In the second step the moderator variable was entered and in the third step the interaction of the independent variable and moderator variable was entered. Before conducting the regression analyses, the independent variables and moderator need to be centralized (Baron & Kenny, 1986). The cognitive and affective empathy scores' means were subtracted from total scores of affective and cognitive empathy. Since the moderator variable was dichotomous, it was dummy coded as 0=female and 1=male (Baron & Kenny, 1986).

Table 4.23 showed the results of the first regression analysis. Findings suggested R was significantly different from zero at the end of each step. After step 1, with affective empathy in the equation $R^2 = .02$, F (1, 711) =17.35, $p<.001$. After step 2, with gender added to the prediction of cyber bullying by affective empathy, $R^2 = .09$, ($\Delta R^2 = .09$), F (2, 710) =36.52, $p<.001$. After step 3, with the interaction of gender and affective empathy added to the prediction of cyber bullying, $R^2 = .09$, ($\Delta R^2 = .09$), F (3, 709)

=24.33, $p<.001$. Main effect of affective empathy and main effect of gender were proved to be significant predictors of cyber bullying. However, the interaction of gender and affective empathy was not significant. Therefore, the negative relationship between the affective empathy level and cyber bullying did not differ among the levels of gender that is being male or female did not determine the direction of the relationship between traditional bullying and affective empathy.

Table 4.23
Testing the Moderation Role of Gender in the Relationship between Affective Empathy and Cyber Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Affective Empathy	-0.15	0.03	-.15	-4.16***	-.15
Step 2					
Affective Empathy	-0.03	0.04	-.04	-0.92	-.03
Gender	4.01	0.54	.30	7.37***	.26
Step 3					
Affective Empathy	-0.03	0.05	-.03	-0.55	-.02
Gender	3.99	0.55	.29	7.24***	.26
Affec. Emp.XGender	-0.02	0.08	-.01	-0.26	-.01

Note. R^2 = .02 for Step 1; ΔR^2 = .09 for Step 2 ($p<.001$);
ΔR^2 = .09 for Step 3 ($p=.79$)
***$p<.001$.

Table 4.24 presented the results of the second regression analysis in which the independent variable was cognitive empathy, moderator variable was gender and the dependent variable was cyber bullying.

Table 4.24
Testing the Moderation Role of Gender in the Relationship between Cognitive Empathy and Cyber Bullying

	B	*SE B*	*β*	*t*	*Semi-partial correlation*
Step 1					
Cognitive Empathy	-0.11	0.05	-.08	-2.23*	-.08
Step 2					
Cognitive Empathy	-0.01	0.05	-.01	-0.30	-.01
Gender	4.18	0.51	.30	8.17***	.29
Step 3					
Cognitive Empathy	-0.01	0.06	-.01	-0.17	-.01
Gender	4.17	0.51	.30	8.14***	.29
Cogn. Emp.XGender	-0.01	0.09	-.00	-0.08	-.00

Note. R^2 = .01 for Step 1 (p<.05); ΔR^2 = .09 for Step 2 (p<.001); ΔR^2 = .09 for Step 3 (p=.93)
*p<.05, ***p<.001.

Findings suggested R was significantly different from zero at the end of each step. After step 1, with cognitive empathy in the equation R^2= .01, F (1, 711) =4.99, p<.05. After step 2, with gender added to the prediction of cyber bullying by cognitive empathy, R^2= .09, (ΔR^2 =.09), F (2, 710) =36.10, p<.001. After step 3, with the interaction of gender and cognitive empathy added to the prediction of cyber bullying, R^2= .09, (ΔR^2 =.09), F (3, 709) =24.04, p<.001. According to the results of the regression analysis both the main effect of gender and main effect of cognitive empathy was significant in predicting cyber bullying. However, the interaction of gender and cognitive empathy were not significant in predicting cyber bullying. Therefore, gender does not moderate the relationship between cognitive empathy and cyber bullying that is to say the negative relationship between cognitive empathy and cyber bullying did not differ among females and males.

4.8. Summary

The analyses of the present were carried out in seven steps. The first step was the descriptive analyses conducted to examine the characteristics of participants who reported to engage in cyber bullying. According to the findings of the present study, mostly students from 11th class, having a monthly income of 1000 to 1999 YTL, and having high school graduate mothers and university graduate fathers reported doing cyber bullying. A great majority of those adolescents had a computer at home as well as personal Internet connection. In addition, one third of those adolescents said they connected to the Internet more than 7 hours in a week which means more than an hour in a day. Almost all of the adolescents who reported cyber bullying experience said they used messenger and SMS. Although parents' educational level seemed to be high, adolescents perception of computer literacy of their parents was low. Nearly, three fourth of the adolescents said that their parents and half of the adolescents claimed that school personnel monitor them in the cyber space. This finding was interesting because how could parents monitor their children in the cyber space which they even do not know well, and how beneficial this monitoring would be. Then, the prevalence rates of traditional and cyber bullying were calculated for the present sample. The cyber bullying rate (47.6%) was found lower than the traditional bullying rate (55.2%).

As the third step, the relationship between cyber and traditional bullying was tested by phi coefficient and two types of bullying were found to be related. Additionally, age and gender mean differences in cyber and traditional bullying were examined by MANOVA and only the main effect of gender was found to be significantly related to traditional and cyber bullying.

Moreover, the predictor power of traditional bullying, frequency use of ICT, adult monitoring at home and at school was inspected by hierarchical multiple regression. According to the results of regression analysis, traditional bullying was the strongest predictor and frequent use of ICT was the second strong predictor of cyber bullying. Neither adult monitoring at home not at school was significantly predicted cyber bullying.

In order to test the major purpose of the study which was investigating the relationship between cyber bullying and empathy with regard to gender, the traditional bullying and empathy relationship with regard to gender was tested first, because traditional and cyber bullying were found related. Results of the mediation analysis conducted by multiple regression indicated that gender was a mediator between bullying (cyber and traditional) and empathy (affective and cognitive). In addition, the moderation role of gender between bullying and empathy; but findings pointed out that gender did not moderate the negative relationship between bullying and empathy.

CHAPTER V

DISCUSSION

The major purpose of the present study was to investigate the relationship between cyber bullying and empathy by considering gender differences. Since there is not an empirical study conducted on to examine the relationship between cyber bullying and empathy based on the current knowledge, the studies conducted on the relationship between traditional bullying and empathy was taken as reference because cyber and traditional bullying was found to have similar characteristics. In addition, the predictive power of traditional bullying, the frequent use of information and communication tools (ICT) and adult monitoring of the Internet use on cyber bullying was examined.

5.1. The Prevalence Rates of Traditional Bullying and Cyber Bullying and the Relationship between Traditional Bullying and Cyber Bullying

The first analysis was the calculation of the prevalence rates of traditional bullying and cyber bullying among the sample of the study. The cyber bullying rate (47.6%) was found lower than the traditional bullying rate (55.2%). In general, in the international literature, cyber bullying rate was found between 4.1% (Kowalski & Limber, 2007) and 62% (Li, 2006). The findings of the present study fall between the aforementioned ranges. In the studies conducted with the Turkish participants, the cyber bullying seemed

to be relatively higher compared to international literature. According to Arıcak et al. (2008); Erdur-Baker and Kavşut (2007); and Topcu et al. (2008), the rate of cyber bullying was around 35%. Interestingly, although these three studies conducted with different participants and different measurement tools all of them yielded in approximately same prevalence rate of 35%. In other words, all three studies indicated that cyber bullying experience was reported approximately one third of the Turkish samples. Therefore, this emerging issue indicated a serious problem among adolescents in Turkey as well as other countries. If almost one third of the population reported to engage in cyber bullying, there are other adolescents who were the target of those cyber bullying acts and probably suffering from the impacts of cyber bullying. Researchers need to be aware of this phenomena and conducted further studies in order to understand the nature of cyber bullying.

Cyber bullying was regarded as a subtype of relational aggression which was reported as frequently performed by females rather than males (Keith & Martin, 2005). Initially, it has been expected in the present study that females cyber bully others more than males because in traditional bullying literature females were found to engage in relational/covert type of bullying more than males (Baldry & Farrington, 1999; Wolke, Woods, Bloomfield, & Karstadt, 2000). However, when the prevalence rate of cyber bullying were examined with regard to gender, males were found as reporting to engage in cyber bullying significantly more often than females. The results of the present study supported the findings of Erdur-Baker and Kavşut (2007) and Vandebosch et al. (2006) who found that males reported to engage in cyber bullying more often than females.

The present study did not have data to examine why such a gender difference existed. This study was correlational and cause-effect relationship

can not be inferred. Further, yet, it could be speculated that for females reporting aggressiveness and bullying was not appropriate even though the type of aggression was covert and relational bullying which were generally considered to be reported by females more than males (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Olafsen & Viemerö, 2000). The differentiating factors between the females who reported bullying experience and those who did not report need to be clarified in further studies. That is to say, it is important to know that why some of the females reported frequent bullying and others did not report.

Present study showed that in terms of age and age by gender interaction, there was not any significant difference on either cyber bullying or traditional bullying experience. Although the differences were minor and not statistically significant, traditional bullying peaked at the age of 20-21 for males and 19 for females, whereas, cyber bullying peaked at the age of 17 for males and 19 for females. Indeed the fluctuations of cyber bullying experience among age groups were not gross, throughout ages cyber bullying experiences were stable. Although in the literature the age difference of cyber bullying was not examined in depth, Williams and Guerra (2007) found that cyber bullying experience was peaked at middle school ages. However, middle to late adolescents was expected to engage in cyber bullying more than others because at those ages the likelihood of accessing to the information and communication tools increases (Campbell, 2005; Ybarra & Mitchell, 2004a).

Traditional bullying and cyber bullying relationship was examined in the literature recurrently because a majority of researchers thought that cyber bullying was an extension of traditional bullying in online world. Moreover, empirical evidence was found that traditional bullies and cyber bullies were the same people (Syts, 2004; Ybarra & Mitchell, 2004a; Li, 2005; Smith et

al, 2005; Erdur-Baker & Kavşut, 2007; Topcu & Erdur-Baker, 2007). The findings of the present study were in line with the studies who found that traditional bullying and cyber bulling were related. Same children may engage in traditional and cyber bullying but at this point, questions could raised by reader because as stated in the review of literature chapter, cyber bullying violated the three basic assumptions of traditional bullying. According to Greene (2006), in traditional bullying, victim knows the bully in person, there is power inequality between bully and the victim, and bullying occurs only in school. However, in cyber bullying, most of the time victim does not know who cyber bully him or her because the cyber world is anonymous. The nature of power inequality was different in cyber bullying. Computer literacy was an advantage rather than the physical power in cyber bullying. Additionally, cyber bullying can take place at anywhere and anytime because cyber bullying is conducted by computers and mobile phones. Due to those violations, questions may bear in mind of the reader how could traditional and cyber bullies be same adolescents. If the traditional bullies' motivation was to show how powerful he or she was, why he or she bullies others in cyber world where the identity of the bully was unknown to the victim most of the time and the victim can not learn who bullied him or her. Therefore, the motivation of cyber bullies' might be different from traditional bullies. The motivations of bullies in cyber and physical world need further clarification by experimental studies.

5.2. Other Characteristics of Cyber Bullies

Knowing who engage in cyber bullying would help parents and educators for prevention and intervention. To examine how well traditional bullying, the usage frequency of ICT, adult monitoring of the Internet use at home and at school predicted cyber bullying, hierarchical multiple regression analyses were carried out.

Findings of regression analysis indicated that traditional bullying was the strongest predictor of cyber bullying. Similar result was found as a result correlation analysis which indicated a statistically significant relationship between cyber and traditional bullying and discussed in the previous part. This result supported the findings of Li, 2005; Smith et al., 2005; and Syts, 2004 and suggested that those who had traditional bullying experience would most probably engage in cyber bullying and parents and educators need to monitor those adolescents carefully by considering their high likelihood of being a cyber bully.

The results of the current study partially supported the previous findings indicating that the usage frequency of ICT was a significant predictor of cyber bullying (e.g., Erdur-Baker & Kavşut, 2007; Ybarra & Mitchell, 2004a). It is easy to forecast the role of frequent use of ICT in predicting cyber bullying. Not necessarily all people who frequently use ICT engaged in cyber bullying, but people who intend to do cyber bullying need to use these technological tools.

Although importance of monitoring in cyber space was emphasized in the literature (e.g., Mason, 2008) and most of the adolescents in the present study reported being controlled by adults at home and school, findings of regression yielded in non-significant results. According to the findings of the present study, adult monitoring at home and at school seem to be not related to cyber bullying experience. The reason of non-significant results might be definition and acts of control in the measurement tools of the present study. For example, one of the monitoring items was setting up filtering programs to child's computer by adults. Since children's computer and the Internet use knowledge and ability was found as better than their parents', children can cancel those programs. The parental report should be obtained as well as the perception of the adolescents by self-report.

5.3. The Relationship of Empathy to Traditional Bullying and Cyber Bullying

In order to investigate the relationship between cyber bullying and empathy with regard to gender, mediation and moderation analyses were carried out. In the literature, both cyber bullying experience and empathy levels (both affective empathy and cognitive empathy) were reported as differing among females and males. In terms of empathy level, females were found as more empathic than males (e.g., Rueckert & Naybar, 2008). However, in most of the studies males found as reporting more cyber bullying experience than females (e.g., Vandebosch, 2006). Therefore, gender could have a differentiating role in the relationship between cyber bullying and empathy either as a mediator or a moderator. It is possible to obtain results indicating both mediator and moderator role of gender. Hence, mediation and moderation analyses were conducted by multiple regressions.

First the relationship between the traditional bullying and empathy was tested, because as stated previously, there was no available empirical study on cyber bullying and empathy relationship. In the literature, the relationship between traditional bullying and empathy was reported. According to Joliffe and Farrington (2006) bullies had lower empathy levels than those who were not bullies. Therefore, empathy may have an alleviating role in traditional bullying. The mediator role of gender in the relationship between affective empathy and traditional bullying; and in the relationship between cognitive empathy and traditional bullying were examined with two different regression analyses.

Regression results indicated that main effect of affective empathy and cognitive empathy significantly predicted traditional bullying and there was a negative relationship between both affective and cognitive components of

empathy and traditional bullying. However, when gender was introduced, the role of affective and cognitive empathy disappeared indicating a full mediation. These results were in the same line with previous studies which examined the role of empathy level to traditional bullying (Jolliffe & Farrington, 2004; Gini et al., 2007; Olweus, 1993). Empathy level of females was higher than males while traditional bullying experience of females was less frequent than males. These results did not indicate causation but it can be concluded that high empathy level was generally the characteristics of females and it might be working as a mitigating factor of traditional bullying.

The moderator role of gender in the traditional bullying and empathy was also tested by two different regression analyses in order to examine whether females and males differ in terms of empathy and traditional bullying relationship. The findings suggested that gender did not moderate the negative relationship between affective empathy and traditional bullying; and cognitive empathy and traditional bullying. Being male or female did not change the negative relationship between affective empathy and traditional bullying; and cognitive empathy and traditional bullying. In other words, for both males and females low empathy level was related to frequent traditional bullying experience and high empathy level was related to less frequent traditional bullying experience.

After clarifying the role of gender in the empathy and traditional bullying relationship, the role of gender in the empathy and cyber bullying relationship was tested. The results of the empathy and traditional bullying relationship can be taken as reference because literature provides both theoretical and empirical evidence that traditional and cyber bullies have similar characteristics (Erdur-Baker & Kavşut, 2007; Syts, 2004; Ybarra & Mitchell, 2004a) as found in the present study.

The role of gender in the affective empathy and cyber bullying; and cognitive empathy and cyber bullying was investigated by multiple regression analyses. The results of mediation analyses pointed out a significant main effect for both affective and cognitive empathy on cyber bullying. Similar to traditional bullying, females who have higher empathy levels were reported less frequent cyber bullying experience. Nevertheless, as it was in the case of traditional bullying, causation can not be inferred on the mitigating role of empathy on cyber bullying due to methodology.

The moderational role of the gender in the affective empathy and cyber bullying; and cognitive empathy and cyber bullying was tested by multiple regression analyses in order to examine whether females and males differ in terms of empathy and cyber bullying relationship. The findings suggested that gender did not moderate the negative relationship between affective empathy and cyber bullying; and cognitive empathy and cyber bullying. Gender of the person did not change the negative relationship between affective empathy and cyber bullying; and cognitive empathy and cyber bullying. In other words, for both males and females low empathy level was related to frequent cyber bullying experience and high empathy level was related to less frequent cyber bullying experience.

Therefore, not necessarily indicating causation, all the mediation and moderation analyses showed that high empathy was related to less frequent bullying experience. The results of this study supported the findings of Jolliffe and Farrington (2006) who found that those who have lower empathy level engage in traditional bullying more frequently than those who have higher empathy level. People who have lower empathy can not perceive the emotions of their behavior on victim and can not foresee consequences of their bullying behavior.

As mentioned before, traditional bullying is a special type of aggression (Gomes, 2007) and aggressive people has lower empathy level (Eisenberg & Strayer, 1987; Kaukiainen et al., 1999; Björkqvist et al., 2000). Previous studies emphasized the preventive role of empathy towards aggressive and antisocial behavior (Björkqvist et al., 2000). Additionally, empathy has a promoting function for prosocial behavior which was reported to correlate with bullying experience negatively (McMahon et al., 2006). In the present study these results were supported. It could be argued that empathy level of the adolescents might have a preventive role in traditional bullying experience and females might engage in traditional bullying less because their empathy level was higher than males.

In the present study, cyber bullying and empathy relationship was tested and similar pattern to traditional bullying was found. Those who have lower empathy cyber bully others more frequently than those who have higher empathy level. Like traditional bullying, cyber bullying is a subtype of aggressive behavior (Keith & Martin, 2005). Moreover, in cyber space understanding emotions of others is even more difficult than physical world because face to face communication is not available. With addition of lack of face to face relationship, being empathic becomes more important in cyber space. Therefore, it is possible that people with low empathy engage in cyber bullying more frequently.

The analyses examining empathy and bullying (cyber and traditional) relationship also supported the previous analyses indicating that cyber and traditional bullying were related. The relation of empathy to cyber and traditional bullying yielded in same pattern which emphasized the similarity of two types of bullying.

5.4. Implications of the Findings

The findings of the present study would be helpful to adolescents, parents, school counselors and educators and will shed light for future researchers. The studies conducted on cyber bullying are aimed to understand the nature of cyber bullying and prevent it before it occurs if possible. Preventing adolescents before they engaged in cyber bullying is important for keeping the potential cyber victims safe. Some of the preventive acts for an adolescent were listed in against cyber bullying web sites (e.g., www.stopcyberbullying.org). Mostly suggested prevention strategies were not giving the personal information and passwords, not believing everything read or seen in the Internet, not opening a doubtful message without an adult. After giving general information about prevention, below, implications of the findings of the present study were presented.

The main theme of the present study was cyber bullying which was defined as abuse of ICT to hurt, threaten or humiliate others in general. However, the purpose of developing ICT was to serve people. Therefore, in order to develop awareness about cyber bullying and grasp the attention of the community to this issue media can be used. People could be taught by short advertisements or celebrities can be used to inform the community about what cyber bullying is and how it can be prevented.

The applications which could be held in schools were the following. In Turkey, Ministry of Education started campaigns for setting up a computer room for almost each school. However, there is not an extensive project which aims to teach ethical and responsible computer use. As part of lack of public awareness, most of the parents and teachers do not know about the phenomenon, therefore, they can not prevent or intervene in cyber bullying. As the first step of prevention and intervention studies, Ministry of

Education should form a group of education experts and make them prepare a prevention and intervention policy by collaborating scientists of education and technology from universities. Second, the prevention and intervention policy should be taught to the practitioners at schools who are teachers, school counselors and other personnel by means of people coming from the Ministry of Education. Ways of preventing adolescents from cyber bullying should be taught to educators as part of this policy. As well as teachers and school personnel, students need to be informed about cyber bullying and what they should do in order to keep themselves safe in cyber world. Media literacy courses were started and it would be helpful to youngsters about how they can obtain benefit from media tools.

The psychological counselors have great responsibility in both prevention and intervention area. The present study provided evidence for the relationship between cyber bullying and empathy. In order to prevent adolescent from engaging in cyber bullying, empathy training can be given to adolescents especially to males whose empathy level was found as lower than females. Since those children's life is not limited to school, their empathy trainings should continue at home. Therefore, another part of the chain, parents should also be included because cyber bullying can happen at home also and teachers should give seminars on cyber bullying and inform parents about the prevention and intervention policy. Parents also have responsibility in developing empathy level of their children. Therefore, at schools, parents need to be given empathy trainings and need to be taught how to be role model for their children in daily life. Moreover, because cyber bullying might be an expression of aggression toward others sometimes and most probably those who cyber bully others do so because they can not express his or her aggression in a health way, communication and conflict resolution trainings should be given for both prevention and intervention of cyber bullying.

Additionally, there are other dangers in the Internet such as harassment and pedophilia. Taking precautions for the country may not be enough and in order to fight against danger coming from the Internet, international collaboration may be needed because the Internet is an international tool and not limited to Turkey. Here, the reader should be careful and take into account the pros and cons of using the Internet. Forbidding the Internet use would not be the solution. If it was used ethical, controlled and appropriately, the Internet have uncountable advantages for both adolescents and adults.

In summary, this study found that cyber bullies were especially adolescents who are frequent ICT user males with low empathy levels and traditional bullying experience. Therefore, parents and teachers should have extra attention and care for at risk adolescents.

5.5. Recommendations for Future Research

Research about cyber bullying has been growing day by day, hence, several recommendations for future research is possible. First of all, in the present study low empathy level was thought as a related factor for engaging in cyber bullying as well as frequent usage of ICT and traditional bullying experience. There should be other personality (e.g., aggressiveness) or environmental factors (e.g., parenting style, school climate) of cyber bullying and these factors could be topic for other research studies in order to grasp the whole picture of cyber bullying.

In the present study, correlational design was utilized and causation can not be inferred as mentioned in the limitations of the study part. Future studies could adopt experimental design and investigate the cause-effect relation between empathy and bullying. In addition, qualitative designs can be adopted by future researchers in order to obtain in depth information.

As a recommendation for methodology, in the present study a structured scale was developed for measuring cyber bullying experience. However, this scale was a self-report scale and due to practicality parent, teacher or peer report can not be obtained. In addition to self report questionnaires, teacher, parents and peers report could be obtained because different measurement tools would provide more extensive findings.

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APPENDICES

APPENDIX A

SAMPLE ITEMS FROM CYBER BULLYING INVENTORY

1) İzin almadan kişisel bilgisayardaki bilgileri (dosya, fotoğraf, messenger konuşma kayıtları vb.) almak.

3) İnternette biri hakkında dedikodular/olumsuz söylentiler yaymak.

7) Nedensiz yere sohbet odasından atmak.

9) Sohbet odasında hakaret etmek.

13) Messenger'da paylaşılan bilgileri izin almadan başkalarına yaymak.

15) Web kamerasını bir program aracılığıyla kullanıcıdan habersiz çalıştırmak.

19) Forum yetkilisinin (moderatör ya da admin) nedensiz yere üyeliği iptal etmesi.

20) Elektronik posta aracılığıyla tehdit içeren, utandırıcı, kırıcı mesajlar göndermek.

22) Elektronik posta hesaplarının şifrelerini ele geçirerek mesajlara ulaşmak.

23) SMS aracılığıyla tehdit edici, utandırıcı, kırıcı mesajlar göndermek.

25) Kameralı cep telefonu ile başkalarının izin alınmadan çekilen utandırıcı fotoğraflarını İnternet ve/veya cep telefonu aracılığıyla diğer insanlarla paylaşmak.

APPENDIX B

SAMPLE ITEMS FROM TRADITIONAL BULLYING QUESTIONNAIRE

1) Farklı olduğu için (cinsiyet, ekonomik durum, sosyal statü, ırk, fiziksel özellikler vb.) ayrımcılık yapmak.

3) Arkadaş gruplarına/etkinliklere almamak, dışlamak.

4) İstemediği şeyleri yapmaya zorlamak.

11) Hoşlanılmayan , istenmeyen lakap takmak

APPENDIX C

SAMPLE ITEMS FROM THE BASIC EMPATHY SCALE

1) Arkadaşımın duyguları beni pek etkilemez.

3) Arkadaşım başarılı olduğunda onun ne kadar mutlu olduğunu anlayabilirim.

5) Başkalarının duygularından hemen etkilenirim.

6) Arkadaşlarımın korktuğunu anlamakta güçlük çekerim.

8) Başka insanların ne hissettikleri beni çok fazla ilgilendirmez.

10) Arkadaşlarımın korktuğunu genellikle anlarım.

11) Televizyonda ya da filmlerde üzüntülü bir şeyler izlerken çoğunlukla ben de üzülürüm.

12) İnsanların ne hissettiğini çoğunlukla onlar bana söylemeden anlayabilirim.

16) Arkadaşımın kızgın olduğunu genellikle hemen fark ederim.

18) Arkadaşımın mutsuzluğu bana hiçbir şey hissettirmez.

APPENDIX D

THE DEMOGRAPHIC FORM

1. Yaş: _____

2. Cinsiyet:

Kız____ Erkek____

3. Sınıf:

9 ___ 10____ 11____ Mezun ____

4. Ailenizin Ortalama Aylık Geliri:

0-499 YTL___ 500-999 YTL___ 1000-1999 YTL___

2000-2999 YTL___ 3000 YTL ve üstü ___

5. Annenizin eğitim durumu (en son bitirdiği okul):

Okuma Yazması Yok____ Okur-yazar____ İlkokul Mezunu___

Ortaokul Mezunu____ Lise Mezunu____ Üniversite Mezunu___

Yüksek lisans___ Doktora___

6. Babanızın eğitim durumu (en son bitirdiği okul):

Okuma Yazması Yok____ Okur-yazar____ İlkokul Mezunu___

Ortaokul Mezunu____ Lise Mezunu____ Üniversite Mezunu___

Yüksek lisans___ Doktora___

7. Evde kullanabileceğiniz bir bilgisayar var mı?

Evet__ Hayır__ (Cevabınız hayır ise 8. soruyu boş bırakınız).

8. Bilgisayarınızda İnternet bağlantısı var mı?

Evet__ Hayır__

9. Okulunuzda bilgisayar kullanıyor musunuz?

Evet__ Hayır__

10. Okulunuzda İnternet kullanıyor musunuz?

Evet__ Hayır__

11. Haftada ortalama ne kadar süre İnternet ve bilgisayar kullanırsınız?

Hiç kullanmam___ 1 saatten az__ 1-3 saat__ 4-7 saat__

8-14 saat__ 15-25 saat__ 26-39 saat ___ 40 saat ve/veya üstü ___

12. İnternet kafeye ne sıklıkla gidersiniz?

Hergün___ Haftada 1-2 kez__ 15 günde bir__

Ayda bir__ 4-5 ayda bir__ Hiçbir zaman__

13. İnternet'te oyun (çevrim-içi oyun) oynar mısınız?

Evet___ Hayır___ (Cevabınız hayır ise 14. soruyu boş bırakınız).

14. Ne sıklıkla İnternet'te oyun (çevrim-içi oyun) oynarsınız?

Hergün___ Haftada 1-2 kez__ 15 günde bir__

Ayda bir__ 4-5 ayda bir__ Hiçbir zaman__

15. Anne/babam İnternet ve bilgisayar kullanımı konusunda benden

iyidir_____ kötüdür_____ aynı seviyedeyiz_____