DIFFERENCES BETWEEN TROLLING AND CYBERBULLYING AND EXAMINATION OF TROLLING FROM SELF-DETERMINATION THEORY PERSPECTIVE

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY
ELİF MANUOĞLU

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
IN
THE DEPARTMENT OF PSYCHOLOGY

JULY 2020
Approval of the Graduate School of Social Sciences

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This dissertation aimed to investigate the differences between trolling and cyberbullying and then examine trolling behaviors from Self-Determination Theory perspective. With the rise of the Internet use, online trolling and cyberbullying emerged as a new form of online harassment and become widespread. However, differences between trolling and cyberbullying are vague in the literature. Moreover, previous research revealed diverse motivations for trolling without a theoretical framework. Before the main data collection, qualitative interviews were performed with self-confessed trolls (8 female) to obtain deeper understanding about the nature of trolling. After the qualitative interviews, 809 university students were participated in Study 1. To investigate the differences between trolling and cyberbullying, dark-triad, self-esteem, and need for recognition were assessed and only need for recognition scores varied significantly. Moreover, regression analyses showed that relational aggression, rather than overt aggression moderated the associations between trolling/cyberbullying and dark triad/need for recognition. In Study 2, propositions of
self-determination theory, basic needs satisfaction and aspirations, were utilized to predict trolling behaviors. Six hundred and ninety-five university students were participated in the study. Mainly, gender moderated the association between relatedness need satisfaction and trolling. In the current dissertation, the results demonstrated that the robust association between dark triad and online antisocial behaviors has been shown once again. In addition, motivations behind trolling behaviors were explored with a theory-based approach. Future research should continue to examine understudied trolling behaviors to increase the knowledge about the construct. Implications and future directions were discussed.

**Keywords:** Trolling, cyberbullying, self-determination theory, need satisfaction, aspirations.
ÖZ

TROLLER VE SİBER ZORBALAR ARASINDAKİ FARKLAR VE TROLLEMEŅİN ÖZ-YÖNETİM KURAMI ÇERÇEVESİNDEN İNCELENMESİ

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Temmuz 2020, 165 sayfa

Bu tez trolleme ve siber zorbalık arasındaki farkları incelemeyi ve trolleme davranışlarını Öz-Denetim Kuramı çerçevesinden araştırmayı amaçlamaktadır. İnternet kullanımının yaygınlaşmasıyla birlikte, çevrimiçi trolleme ve siber zorbalık yeni bir tür çevrimiçi taciz türü olarak ortaya çıkmış ve yaygınlaşmıştır. Ancak trolleme ve siber zorbalık arasındaki farklar alanyazında belirsizdir. Bununla birlikte, geçmiş çalışmalara trolleme için kuramsal bir çerçeve olmadan çeşitli motivasyonlar ortaya koymıştır. Çalışmanın asıl verisi toplanmadan önce, kendilerini troll olarak tanımlayan bireylerle (8 kadın) trollemenin doğası hakkında daha derin bilgi elde etmek amacıyla nitel görüşmeler yapılmıştır. Nitel görüşmelerden sonra, 809 üniversite öğrencisi Çalışma 1’e katılmıştır. Troller ve siber zorbalar arasındaki farkları incelemek için kararnık ölçü, benlik saygısı ve tanınma ihtiyacı ölçülmüştür ve sadece tanınma ihtiyacı puanları anlamli bir farklılık göstermiştir. Bununla birlikte, regresyon analizleri açık saldırganlıkla ziyade ilişkisel saldırganlığın trolleme/siber zorbalık ve kararnık ölçü/tanınma ihtiyacı arasındaki ilişkilerde anlamli bir aracı

Anahtar kelimeler: Trolleme, siber zorbalık, öz-yönetim kuramı, ihtiyaç tatmini, hayat amaçları.
ACKNOWLEDGMENTS

First, I would like to thank my advisor Prof. Dr. Bengi Öner-Özkan for her valuable support during this inspiring experience. Her patience, tranquility, and trust in my efforts helped me to finish this dissertation.

Besides my advisor, I would like to thank the rest of my advisory board Prof. Dr. Özlem Bozo Özen and Assist. Prof. Dr. Başak Ok as well as Assoc. Dr. Müjde Koca Atabey and Assist. Prof. Dr. Athanasiosis Mouraditis for their feedback and questions which will guide my future research. I also thank my former advisory board member Assoc. Dr. Emre Selçuk for his guidance.

I would like to thank all my instructors at Middle East Technical University in the Department of Psychology as well. Thanks to their guidance and wisdom during my whole university life, I am on my way to become a good scientist.

I am thankful to all my friends in the department of psychology at METU. I learned many things from them and I feel lucky to have met them.

Special thanks to my colleagues Gamze Şen, Bilgesu Kaçan, Naziye Güneş Açıar, Oğuz Karataş and Yusuf Bayar. Our friendly chats were a great pleasure. Their presence and support were important.

I am grateful to Burcu Atılgan, Nilsu Tosun Borhan, Edanur Koçer, Berfin Serenat Simser, Kübra Gökhan, and Deniz Dönmez. As my friends, they taught me more than I could ever give them credit for here.

I am thankful to Elis Güngör for her encouragement and support whenever I feel overwhelmed.
I would like to express my sincere gratitude to Prof. Dr. Nebi Sümer and my former supervisor Assoc. Dr. Ahmet Uysal. I learned many skills to be a good researcher while studying together.

With many thanks to my dearest friends Zeynep Cansu Özçınar and Esra Atıcı. Although we could not meet often, I have felt their support and closeness.

Last but not least, I would like to express my deepest gratitude and appreciation to dearest Ersin Kara for his support, encouragement, patience, and presence in my life. I know that whatever I pursue, his love and guidance will be with me.
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CHAPTER 1

INTRODUCTION

The widespread use of the Internet has set the stage for the emergence of various online antisocial behaviors in recent years (Sest & March, 2017). As a new form of online bullying and harassment, trolling is one of the most prevalent one. ‘‘Troll’’ is a term used to describe a mythological creature hiding under bridges to catch victims to pounce (Herring, Job-Sluder, Scheckler, & Barab, 2002). In the online world, some individuals imitate the acts of this mythological creature. Thus, the modern version of the mythological creature can be the Internet trolls (Moreau, 2018).

As an interpersonal antisocial behavior, trolling is defined as the deliberative use of deception to provoke others to create an environment with conflict and distress for the perpetrators’ own enjoyment and benefits in online platforms (Bishop, 2014; Buckels, Trapnell, & Paulhus, 2014; Donath, 1999; Golf-Papez & Veer, 2017; Hardaker, 2010). Starting aggressive arguments (Klepmka & Stimson, 2014), posting provoking, malicious, upsetting, and shocking messages or contents to the comment sections, and spreading false information for attention are considered some common trolling behaviors (Gammon, 2014; Hardaker, 2010). Within this scope, the troll is defined as the individual who performs all these behaviors without an apparent instrumental purpose (Buckels et al., 2014). Variety of problems emerge due to trolling such as conflict, polarization of opinions, highly angry reaction from other users, and disruption of smooth discussions in online platforms (Coles & West, 2016; Hardaker, 2010; Hopkinson, 2013; Sest & March, 2017).

Trolling started to be known after the number of tragic cases of ‘‘R.I.P. (rest in peace) Trolling’’, in which memorial pages of deceased people were assaulted on Facebook
in 2011 (Marwick & Ellison, 2013; Phillips, 2011; Walter, Hourizi, Moncur, & Pitsillides, 2011). For instance, trolls wrote malicious messages on Facebook page of a deceased 15-year-old girl, who had been killed after a train hit: “I fell asleep on the track lolz” (Synnott, Coulias, & Ioannou, 2017). Other examples of trolling include the posting of irrelevant reviews on Android’s WebView app store page (Ghoshall, 2015), convincing consumers to put their computer on microwave to get rid of a virus (Japan, 2015), and writing offensive replies to disappointed customers under fake customer service accounts on the Facebook page (Nudd, 2015). Furthermore, Russia’s Internet Research Agency (IRA) performed a large-scale trolling event to affect presidential elections of the U.S. in 2016 by creating an environment full of anger and division by using social media. An Instagram account of the IRA, Woke Blacks, posted messages similar to that: “A particular hype and hatred for Trump are misleading the people and forcing Blacks to vote Killary”, “We cannot resort to the lesser of two devils. Then we’d surely be better off without voting AT ALL” (Lee, 2018; Ifraimova & Shuster, 2018). These examples revealed that the severity of trolling could be pretty variable and it can influence millions of people.

As the above examples show, trolls need only a comment section to perform their malicious actions (Klempka & Stimson, 2014). Hence, they have a variety of online options to perform their malicious actions. Social networking (Craker & March, 2016), dating (March, Grieve, Marrington, & Jonason, 2017), gaming (Hughes, Griffin, & Worthington Jr, 2017; Thacker & Griffiths, 2012), online forums (Coles & West, 2016; Herring et al., 2002), and YouTube (McCosker, 2014) are the websites that trolling was observed most frequently. For example, when one goes to a YouTube video and reads the comments below, s/he can easily find the comments, including trolling without any effort.

1.1 Differences and Similarities between Trolling and Cyberbullying

The term “trolling” is sometimes used synonymously with cyberbullying in which specific victims are targeted repeatedly and willfully for the purpose of harm in online
(Bishop, 2014; Klempka & Stimson, 2014; Slonje, Smith, & Frisen, 2013). Similar to trolling, cyberbullying has received increased attention after the suicide of several publicized victims (Hinduja & Patchin, 2010). However, cyberbullying has been known and received scholarly attention before these events. This situation implies that cyberbullying results in more severe consequences for the victims as compared to trolling.

Some elements in the definition of cyberbullying require attention to comprehend the differences between trolling and cyberbullying. The main difference between trolling and cyberbullying is that in trolling, the aim is straightforward and perpetrators choose random people to victimize, but in cyberbullying, specific victims are selected and typically, cyberbullies also know their victims in real life or in-person (Tokunaga, 2010). Furthermore, targeted victims are harmed willfully and repeatedly in cyberbullying since cyberbullies have a pervasive form of aggression (Ang & Goh, 2010; Dooley, Pyzalski, & Cross, 2009; Katzer, Fetchenhauer, & Belschak, 2009; Palermiti, Servidio, Bartolo, & Costabile, 2017), but the majority of the trolling cases are a one-off event. Another difference is that while cyberbullying contains mean and harmful acts, in most cases of trolling, a playful and mischievous style is observed. Moreover, research claimed that cyberbullying has more severe consequences for both perpetrators and victims. For example, both of them were more likely to have suicidal thoughts and to attempt suicide compared to others who did not experience such a form of behavior (Hinduja & Patchin, 2010; Van Geel, Vedder, & Tanilon, 2014). Furthermore, the power imbalance is observed between the victim and perpetrator of cyberbullying, meaning that the victim does not have the opportunity to defend herself or himself in cyberbullying (Coles & West, 2016; Pyzalski, 2012). Moreover, trolling is a less understood form of online harassment in comparison to cyberbullying (Phillips, 2015). Last, while much of the literature has examined cyberbullying, there is limited research on trolling (Fichman & Sanfilippo, 2016; Howard, Zolnierek, Critz, Dailer, & Ceballos, 2019). To summarize, these studies suggest that cyberbullying can be differentiated from trolling depending on the form, content, intent, and
consequences of the action (Buckels, Trapnell, Andjelovic, & Paulhus, 2018; Fichman & Sanfilippo, 2016; Hardaker, 2010; Shachaf & Hara, 2010).

There are some aspects that trolling and cyberbullying are similar. First, both of them are forms of online harassment or cyber harassment. Second, online aggression or cyber aggression are considered the main characteristics of them (Corcoran, McGuckin, & Prentice, 2015; Zezulka & Seigfried-Spellar, 2016). Last, both trolling and cyberbullying are seen as the manifestation of online disinhibition, which is defined as a form of failure in self-control (Suler, 2004; Voggeser, Singh, & Göritz, 2018). It can be claimed there are more differences than similarities between trolling and cyberbullying.

Although both trolling and cyberbullying have constituted an online social problem and have some common and distinct aspects, there have been limited attempts to investigate the differences between them systematically. In addition, trolling is mostly discussed in popular media (Hopkinson, 2013). Therefore, the current study aimed to contribute to the growing body of research by examining differences between tolling and cyberbullying systematically as well as investigating motivations for trolling. One pilot and two correlational studies will be performed to achieve these goals. Specifically, in Study 1, whether trolling is a different construct from cyberbullying will be examined through dark personality traits, self-esteem, and need for recognition. Moreover, the potential moderating role of aggression between these constructs requires exploration to extend past research. More specifically, the aim is to investigate both the unique and moderating effects of these constructs in predicting trolling and cyberbullying. After these investigations, motivations for engaging in trolling will be examined in Study 2. Given the complexity of trolling behaviors, the paucity of research in trolling, and confusion due to the different criteria of different researchers to define trolling, it will be useful to adopt a well-grounded theory, Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017), which fundamentally addresses human motivation behind actions, to examine trolling behavior deeply in Study 2. Last, the moderating role of gender will also be examined in predicting trolling in Study 2.
1.2 Multidisciplinary Studies Investigating Trolling

The distinction between trolling and cyberbullying has not been examined systematically, as already stated. Therefore, these two types of online harassment can be confused, as mentioned before. This situation is also associated with the dearth of trolling research in the existing literature. Since it is a new form of online misbehavior, there were some attempts to describe trolling and its components. The first attempts came from multidisciplinary studies. Multidisciplinary studies tried to characterize trolling and determine the components of it to solve the vagueness problem and describe trolling precisely. For instance, some researchers conducted studies to examine how trolling is performed in online forums by investigating the posted contents (Coles & West, 2016; Hardaker, 2013, 2015; Sanfilippo, Yang, & Fichman, 2017). It was claimed that aggression, deception, disruption, and success were the components of trolling (Hardaker, 2010, 2013). Offensive and abusive language were observed in the examples as well. Moreover, it was reported that trolling is an undesirable act and trolls possess a variety of negative characteristics such as sadism, being a goofball, and liar (Coles & West, 2016). The strength of these studies is that meaning of trolling was investigated from the Internet users’ perspective by drawing data from publicly available forums (Coles & West, 2016). However, the generalizability of the components may be problematic due to the use of small samples in these studies. In this context, quantitative studies can be needed to support the studies mentioned above. A combination of findings from the both methods can provide more precise conclusions regarding the definition and components of trolling.

Case studies were conducted and strategies to handle trolling were discussed for further understanding. Herring et al. (2002) exemplified how a perpetrator has trolled a feminist forum during weeks. The troll was banned and they accepted it as a useful strategy. Shaw (2013) also examined strategies to handle trolling in feminist blogs. In particular, collective response to trolling was demonstrated as a helpful strategy. Another researcher (Bishop, 2012) discussed that gamification, which tries to add elements from video games in non-gaming systems to increase user participation and
engagement, can be a useful strategy to improve the quality of online communication. Bishop (2014a) conducted another case study to demonstrate the ways to handle trolling in a political discussion group. The scale called This Is Why We Can’t Have Nice Things was developed to help system operators determine the users’ likelihood of being offended and also the suitability of new users to the online community in advance. These studies suggest that trolls choose forums in which sensitive topics are discussed. Synnott et al. (2017) also analyzed the strategies and behaviors of a specific trolling group called anti-McCanns. Quantitative content analysis demonstrated that the use of language was important for anti-McCanns to create a salient group identity and to stereotype pro-McCann group negatively. These strategies were also found in Hardaker’s (2013) study so they may be common themes in trolling behavior. Moreover, these studies also showed that, like in cyberbullying, trolls targeted specific individuals repeatedly. There is a need for more studies for a precise understanding about the distinction between trolling and cyberbullying in this respect.

Trolling is also frequently observed in YouTube comments written under the videos. Some specific videos (Christchurch earthquake, the Auckland haka, and Gangnam Style) were examined in past studies and it was found that homophobic and sexist language, poor grammar, nonsensical comments, mentioning physical violence, being rude to other commentators were the common characteristics of trolling (Klempka & Stimson, 2014; McCosker, 2014). The sensitivity of the topics in the videos may attract the attention of trolls as in the forums.

Another bunch of research examined trolling by semi-structured interviews. To determine which behaviors are considered trolling, the definition of trolling, and motivations of trolling, Cook, Schaafsma, and Antheunis (2018) conducted 22 semi-structured interviews with self-confessed trolls meaning that trolls themselves accepted that they are online trolls. Interviews further highlighted that there is a variety of behaviors trolls consider as trolling, such as verbal trolling, behavioral trolling, and flaming. Moreover, consistent with the literature, trolls themselves define trolling differently, but there were some common themes in trolling: attack, sensation-seeking, and interaction-seeking. Among the variety of motivations for trolling, three key
motivations emerged depending on their frequency: personal enjoyment, revenge, and thrill-seeking. Another qualitative research examined trolling to define trolling behavior with the opinions of the general public through an online questionnaire providing qualitative responses. In total, 379 responses were obtained and in line with the literature, respondents thought that this behavior is performed deliberately to provoke others. Importantly, the majority of the participants did know that trolling and cyberbullying are different but in which aspects they are different seemed confusing for them. For example, many participants indicated that trolling is classified under cyberbullying or some of them indicated that trolling is a less serious form of cyberbullying (March & Marrington, 2019).

As it can be understood from the studies mentioned above, multidisciplinary studies are scattered and examined trolling with a descriptive perspective. They mainly examined trolling through in-depth qualitative interviews and content analysis of posts from forums and other online platforms (Zeulka & Seigfried-Spellar, 2016). Their advantage is that they examined trolling both from the perspective of trolls and non-trolls. However, making inferences based on their findings may not be practical. Although they determine some common characteristics of trolling, their sample sizes were also small and generalizability might be problematic. Some psychology-based studies tried to examine the profile of trolls, motivations behind trolling, and context effects on trolling with larger samples to overcome these obstacles. In the following section, psychology-based studies examining trolling and cyberbullying were explained.

1.3 Psychology-Based Studies Examining Trolling

1.3.1 The Association between Trolling and Dark Personality Traits

Several theoretical perspectives were utilized to predict trolling in psychology-based research. Researchers have tried to construct the profile of trolls and determine motivations behind trolling behavior. Mainly, Dark Tetrad personality was utilized as
the predictor of trolling through both experimental and correlational designs. Previous studies showed that narcissism, Machiavellianism, psychopathy, and everyday sadism represent non-pathological personality traits. They are considered within the normal range of everyday functioning so they do not call the clinical or forensic attention (Furnham, Richards, & Paulhaus, 2013; Jones & Paulhaus, 2014; Paulhus, 2014; Paulhaus & Williams, 2002). However, high levels of The Dark Tetrad were found to be associated with socially adverse behaviors such as frequent infliction of suffering on others (Jones & Paulhaus, 2014; Paulhaus & Williams, 2002).

Briefly, the hallmark of narcissism is a pathological form of self-aggrandizement. Manipulation and callousness are the other main characteristics of it. It is considered that ego-reinforcement and attention-seeking are the main motivations of narcissistic individuals behind their actions (Campbell & Miller, 2011; Paulhus, 2014). In addition to these, inflated self-view, fantasies of control, success, and admiration, and excessive desire to have self-love flattered by others are observed characteristics of narcissism. Narcissist individuals are self-centered, overestimate their accomplishments, refuse criticism, and deny compromising. Healthy self-respect and confidence and unhealthy self-love were distinguished by most theorists since milder displays of narcissism are considered a personality type and not necessarily a clinical disorder (Morf & Rhodewalt, 2001). It is not surprising that narcissism is associated with online problems. A past research showed that narcissism is related to problematic internet use via social media use (Kircaburun & Griffiths, 2018).

Machiavellianism is mainly characterized by having a cynical view of human nature, lack of morality, the principle of putting benefits above, and belief in the effectiveness of the manipulative tactics in handling others. Machiavellians make plans in advance, care alliances, and do their best to keep their reputation positive. They behave strategically and deceptively rather than impulsively (Jones & Paulhus, 2011). While doing so, they are less likely to have a concern regarding other peoples’ emotions. As narcissism, they do not engage in behaviors that can be categorized as extremely antisocial but they are more likely to lie, cheat, and deceive others (Jakobwitz & Egan, 2006; Jones & Paulhus, 2014). Previously, it was found that Machiavellianism was
both directly and indirectly associated with problematic Internet use via online gaming, online gambling, and online shopping (Kircaburun & Griffiths, 2018).

In psychopathy, deficits in affect (i.e., callousness) and deficits in self-control (i.e., impulsivity) are the key features. The deficits in self-control remain fundamental to both criminal and noncriminal aspects of psychopathy but nonclinical psychopaths do not engage in serious antisocial acts as narcissism and Machiavellianism. Strategic manipulation of others is one of the key features of psychopathy. However, impulsivity is the differentiating characteristic of psychopathy from Machiavellianism. Moreover, the lack of concern for others and lack of guilt when their actions hurt others are observed in psychopaths. For instance, due to their impulsivity, psychopaths can lie to win the immediate rewards at the cost of their long-term interests and do not hesitate to hurt others for the instrumental purposes (Hall & Benning, 2006; Jones & Paulhus, 2011; Paulhus & Williams, 2011; Woodworth & Porter, 2002). Psychopathy was found to be associated with the use of violent, explicit, and antisocial media use (Williams, McAndrew, Learn, Harms, & Paulhus, 2001).

Last, everyday sadism is characterized by physical or verbal infliction of pain, humiliation, and suffering to others for pure enjoyment. It was suggested that playing violent video games, watching or performing violent sports, and bullying are the behaviors that are consistent with everyday sadism (Buckels, Jones, & Paulhus, 2013; Paulhus, 2014). Sadism will not be used as a predictor of trolling and cyberbullying in the present study as some researchers have argued that role of sadism alongside the Dark Tetrad Traits is unclear and more research is needed to prove its usefulness (Jonason, Zeigler-Hill, & Okan, 2017; Tran, Bertl, Kossmeier, Pietschnig, Stieger, & Voracek, 2018).

Studies conducted to examine the associations between trolling and dark personality traits are pretty new in the literature. First was conducted by Buckels, Trapnell, and Paulhus (2014) as two online studies. In addition to Dark Tetrad, gender and big-five personality were the predictors of trolling. Global Assessment of Internet Trolling scale (GAIT) to assess trolling behavior, trolling enjoyment, and identification with
trolling was developed in this research. The following studies mainly used this scale to detect trolling behaviors. According to the findings of this research, sadism showed the strongest association with trolling. Moreover, narcissism was found to be negatively associated with trolling enjoyment when controlling for other dark traits and psychopathy was unrelated to the enjoyment of trolling. Machiavellianism was also a predictor of trolling.

Craker and March (2016) conducted another study to investigate the profile of trolls further by using the social reward concept. Similar to the study of Buckels, Trapnell and Paulhus (2014), the Dark Tetrad and GAIT were used. GAIT was adapted to Facebook context for this study to measure trolling behaviors on Facebook and named as GAFT (Global Assessment of Facebook Trolling). According to findings, psychopathy and sadism were the predictors of trolling. Negative social potency had the strongest predictive power regarding trolling as compared to the Dark Tetrad. Results implied that trolls have a social motivation for trolling (Cracker & March, 2016). Lopes and Yu (2017) also examined trolling on Facebook through an experimental study. After completing dark personality measures, participants were presented two same-sex Facebook profiles and then they rated their agreement with trolling comments regarding these profiles. In accordance with the previous findings, psychopathy was found to be the predictor of trolling in both popular and less popular profiles.

Another study (March et al., 2017) used dysfunctional impulsivity in addition to dark personalities and sex to predict trolling. Trolling behaviors were measured with GAIT. Sadism and psychopathy were the predictors of trolling but narcissism and Machiavellianism were not. Furthermore, the relationship between impulsivity and trolling was moderated by medium and high levels of psychopathy. The finding suggested that the higher the level of psychopathy, the higher the agreement that the participant would troll the popular profile.

Sest and March (2017) used only psychopathy and everyday sadism among the dark personality traits to predict trolling in their research. Gender and empathy were the
other predictors. In accordance with the previous studies (e.g., Craker & March, 2016; March et al., 2017), higher levels of trait psychopathy and sadism were associated with trolling. Moreover, individuals low in affective empathy were more likely to perpetrate trolling and trait psychopathy moderated the relationship between cognitive empathy and trolling. This finding suggested that being high on trait psychopathy is associated with using an empathetic way to predict and recognize the emotional suffering of the victims without experiencing the negative emotions which victims suffer (Sest & March, 2017).

A more recent study examined the relationship between sadistic personality and trolling through one online and one experimental study and showed that identical patterns of pleasure and harm minimization were predicted by sadism and trolling. More specifically, self-reported pleasure from others’ pain mediated the relationship between trolling and perceived pain intensity. The same mechanism was also found in the relationship between sadism and perceived pain intensity (Buckels et al., 2018). A new scale called iTroll to measure overt trolling behavior was also developed in this study.

In short, these studies showed that noxious personality traits were proved to be useful for the researchers seeking a preliminary examination of the profile of individuals engaging in trolling. More specifically, psychopathy had a robust predictive power in predicting trolling but there exists mixed evidence for narcissism, Machiavellianism and sadism (Moor & Anderson, 2019).

1.3.2 The Association between Cyberbullying and Dark Personality Traits

Research has also examined the association between cyberbullying and Dark Triad traits in a variety of online platforms, such as social media and gaming sites using correlational designs. Goodboy and Martin (2015) found that cyberbullying was positively associated with all Dark Triad traits, Machiavellianism, narcissism, and psychopathy, but among them, psychopathy was the unique predictor of cyberbullying. In line with this research, a recent study showed that all Dark Tetrad traits were found
to be the predictors of cyberbullying in participants from different ethnic backgrounds (Asian, black, and white) (Brown, Hazraty, & Palasinski, 2019). By contrast, a past research showed that sadism was the predictor of cyberbullying but Machiavellianism and psychopathy were not (van Geel, Goemans, Toprak, & Vedder, 2017). However, other studies pointed that only psychopathy, but not Machiavellianism and narcissism were the predictors of cyberbullying (Gibb & Devereux, 2014; Pabian, De Backer, & Vondebosch, 2015). Similar to these studies, a study in which 9484 tweets were examined by using a specific hashtag (#GamerGate which is an online video game) demonstrated that psychopathy was a significant predictor of cyberbullying in these tweets but Machiavellianism and narcissism were not (Balakrishnan, Khan, Fernandez, & Arabnia, 2019). Last, another study aimed to understand the mechanism in the relationship between dark personality traits and problematic social media use through cyberbullying. The study revealed that cyberbullying mediated the association between Machiavellianism and problematic social media use and also narcissism and problematic social media use, which suggested that online antisocial behaviors might lead to higher engagement in problematic social media use (Kircaburun, Jonason, & Griffiths, 2018).

Similar to trolling, the utility of dark traits was proven to be helpful in examining cyberbullying. Although there existed some discrepancies, findings also suggested that the observed patterns in cyberbullying research resemble the associations between trolling and Dark Triad. More specifically, the aforementioned studies indicate that among the other traits, psychopathy seems as a consistent predictor of cyberbullying. This is also consistent with the finding of a recent review which indicated that the psychopathy emerged as the strongest predictor in the relationship between online antisocial behaviors and dark personality traits. Machiavellianism, narcissism, and everyday sadism were also associated with these behaviors but to a lesser degree than psychopathy (Moor & Anderson, 2019). However, since cyberbullies perform their actions deliberately and target specific victims, their level of psychopathy might be higher than trolls. In light of this information, it is expected that psychopathy levels of cyberbullies will be higher than trolls (H1). However, due to the inconsistencies in the
findings regarding Machiavellianism and narcissism in predicting both trolling and cyberbullying, specific hypotheses were not formulated about them. Exploratory analyses will be performed to investigate the associations between dark personality traits with trolling and cyberbullying.

1.3.3 The Association between Self-Esteem and Trolling

Self-esteem, defined as “a favorable or unfavorable attitude toward the self” (Rosenberg, 2015), plays a prominent role during human life (Brewer & Kerslake, 2015). Previously, a few research assessed the role of self-esteem in trolling even though there is much research investigating the link between self-esteem and more general internet use in the literature (e.g., Jackson, Zhao, Witt, Fitzgerald, Von Eye, & Harold, 2009; Mei, Yau, Chai, Guo, & Potenza, 2016). Thacker and Griffiths (2012) examined trolling in the online gaming context and found that there was a positive association between witnessing trolling and self-esteem. However, being exposed to trolling was found to be negatively associated with self-esteem. Interestingly, experiencing trolling was correlated positively with the frequency of trolling. This finding is consistent with the result of a recent research which revealed that being a victim of trolling is the predictor of subsequent trolling (Hong & Cheng, 2018). However, Thacker and Griffiths (2012) did not examine instances of trolling in other online platforms. Gaming is a pretty different context as compared to other online platforms to perform trolling. For example, griefing, team-killing, team-blocking, feeding (allowing themselves to be killed by a rival team to make their own team disadvantageous), and going “AFK” or away from the keyboard are the examples of behavioral trolling that can be observed only in games (Cook et al., 2018). This shortcoming was met in another study by comparing self-esteem levels of trolls and cyberbullies in various online platforms. It was demonstrated that individuals engaging in both trolling and cyberbullying had scored lower on self-esteem compared to individuals engaging in neither of these behaviors (Zezulka & Seigfried-Spellar, 2016). This was the first study examining self-esteem levels of trolls and cyberbullies
in comparison to individuals who have never engaged in these behaviors. In this respect, a replication can be needed to prove the robustness of this finding.

1.3.4 The Association between Self-Esteem and Cyberbullying

More research has explored the role of self-esteem in cyberbullying as compared to trolling. Previous research examining the effects of experiencing cyberbullying both as a victim and offender showed that both groups had lower levels of self-esteem than those who had lower levels of experience of cyberbullying or no experience with cyberbullying in middle school students (Patchin & Hinduja, 2010). A similar finding was demonstrated in another study for high school students (Brewer & Kerslake, 2015). A more recent study showed that a lower level of self-esteem is a risk factor for cyberbullying victimization but not for cyberbullying perpetration in middle and high school students (Palermi et al., 2017). Another study showed that in addition to traditional bullying, cyberbullying victimization predicts low self-esteem in high school students (Cenat, Hebert, Blais, Lavoie, Guerrier, & Derivois, 2014).

Contrary to these studies, a past research showed that cyberbullies, cyberbully victims, and individuals not involved in cyberbullying had similar levels of self-esteem in adults (Brack & Caltabiano, 2014). It was indicated in this research that some respondents reported extremely high rates of cyberbullying or cyber victimization. Therefore, it was suggested that it is crucial to differentiate individuals reporting mild or moderate levels of distress from the individuals reporting severe distress after experiencing bullying as both victims and offenders (Ortega et al., 2012). Last, the mediating role of cyberbullying was tested in a recent research in the association between cyberbullying and narcissism (both overt and covert) (Fan, Chu, Zhang, & Zhou, 2019). The results of the study demonstrated that self-esteem mediated the relationship between both cyberbullying victimization/perpetration and covert/overt narcissism.

The inconsistent results highlight the need for further research to clarify the issue. Majority of the studies mentioned above used middle and high school students as
participants. The findings from a meta-analysis involving 50 published articles and data form 4 large national studies ($N = 74,381$) showed the normative trajectory of self-esteem across the life span. According to findings, drops and lower stability in self-esteem are observed as a result of sudden environmental and/or maturational changes faced in adolescence (Trzesniewski, Donnellan, & Robins, 2003). The inconsistencies in the findings regarding self-esteem may be observed because of the sample chosen in previous cyberbullying research. Therefore, university students were preferred in the current study in terms of observing more stable self-esteem. Within this respect, it was hypothesized that trolls and cyberbullies will have lower levels of self-esteem than individuals who have never engaged in both trolling and cyberbullying (H2).

1.3.5 The Association between Need for Recognition and Trolling

The other construct that trolling and cyberbullying will be compared is need for recognition. It is described by Imamoglu (2001a) as “a tendency to seek being acknowledged as a person worthy of attention” (p. 4). It is other-dependent motivational tendency meaning that one needs the attention of others to be acknowledged as worthy. Therefore, it was stated that need for recognition might be regarded as outcome-oriented. Imamoglu (2001b) developed a scale to measure tendencies toward fame, attention-seeking, easy reward-seeking, and acknowledgment seeking as a composite score.

To the best of our knowledge, there is no study examining the association between need for recognition and trolling directly. However, as mentioned before, previous qualitative research claimed that trolls are attention-seekers (Gammon, 2014; Hardaker, 2010). They post provoking and upsetting comments or send messages to receive any response from others. They seem to care being recognized by others as a result of their malicious acts. Furthermore, as mentioned before, negative social potency predicted trolling along with Dark Tetrad traits suggests that trolls have a social motivation for trolling and accept the negative reaction they obtained with
pleasure (Cracker & March, 2016). Thus, it was reasonable to expect that need for recognition will be positively associated with trolling.

### 1.3.6 The Association between Need for Recognition and Cyberbullying

Contrary to trolling, cyberbullies target specific victims to harm seriously in a repeated manner, as already stated. Although they know their victims in person, cyberbullies disguise themselves while performing their actions. As previous research showed, one of the main factors differentiating cyberbullying from traditional bullying is anonymity (Barlett, Gentile, & Chew, 2016; Slonje & Smith, 2008; Vandebosch & Cleemput, 2008). The role of anonymity in predicting cyberbullying was shown in a recent 4-waves longitudinal study. It was revealed that Wave 1 anonymity predicted Wave 2 cyberbullying attitudes, which predicted cyberbullying at Wave 3. Confirming the cyclical learning process, Wave 3 cyberbullying predicted Wave 4 anonymity (Barlett & Kowalewski, 2019). Moreover, cyberbullies may not want to be recognized or acknowledged by their victims and others in the online platforms because of the serious legal sanctions. In light of these, it was expected that need for recognition will be negatively associated with cyberbullying. All in all, it was hypothesized that trolling and cyberbullying will be differentiated by need for recognition. Specifically, trolls will have higher levels of need for recognition than cyberbullies (H3).

### 1.3.7 The Association between Aggression and Trolling

According to the majority of the aggression theories, aggression is a multidimensional construct. Researchers made a distinction between various forms of aggression, depending on “whats” and “whys” of aggression. “Whats” of aggression include direct, overt, physical, and verbal aggression; “whys” of aggression include indirect, relational, social, and material aggression. Although these dimensions generally overlap, at least two forms of aggression can be distinguished, namely, overt and relational aggression (Buss & Perry, 1992; Crick, 1996; Dodge & Coice, 1987). Overt
forms of aggression include physical acts of aggressive behavior, such as hitting, kicking, and threatening peers. In contrast, inflicting social harm by damaging peer relationships and social status are the main characteristics of relational aggression. Spreading rumors or gossip about a peer and deliberately excluding a peer from social relations are examples of relational aggression (Crick & Grotpeter, 1995; Delveaux & Daniels, 2000).

As the previous qualitative research revealed, aggression is considered one of the main components of trolling since it was observed that trolls mainly post aggressive comments to the comments sections on the Internet (Hardaker, 2010, 2013). However, qualitative studies examined the association between aggression and trolling through a limited number of interviews and forum posts, similar to attention-seeking component of trolling. Thus, it seems necessary to conduct quantitative studies with larger samples to support this finding. The aggressive comments, posts, or messages that trolls and cyberbullies send to their victims in online platforms suggest that their aggression may be indirect and relational. Furthermore, a significant relationship between overt aggression and trolling is not expected in the present study since it is not possible to exert overt aggression in online environments. In other words, one should confront other people in real-life settings to exert direct overt aggression. However, it is also possible that overt aggression can predict trolling indirectly. In such a way that trolls may reflect their overt aggression through teasing others in online platforms.

1.3.8 The Association between Aggression and Cyberbullying

Aggression is also considered as the main characteristic of cyberbullying (Corcoran et al., 2015). Specifically, cyberbullies sent offensive or aggressive messages to their victims similar to trolls. Some studies suggested that cyberbullying is a type of aggression. For example, one study presented types of electronic aggression through qualitative data obtained from teachers and elementary school students. It was concluded that electronic aggression is a broad term and cyberbullying can be
classified as one form of electronic aggression (Pyzalski, 2012). In line with this research, another study showed that cyberbullying is distinct from overt and instrumental aggression and appears as a new form of aggression. The findings of this study suggested that it can be considered as the counterpart to physical, verbal, and relational aggression (Mehari & Farrell, 2018). Other research examined the association between cyberbullying and aggression. For instance, a past research revealed that perpetration of cyberbullying was positively associated with verbal aggression (Savage & Tokunaga, 2017). Yet another study showed that even normative beliefs about aggression, one’s own beliefs about the acceptability of aggression, are related to cyberbullying or electronic aggression (Ang, Tan, & Mansor, 2011). Similarly, another research showed the direct association between overt and relational aggression and cyberbullying was demonstrated in a past research. Results showed that approval of both overt and relational aggression is positively related to cyberbullying or Internet aggression (Werner, Bumpus, & Rock, 2010). In the present research, the moderating roles of overt and relational aggression on the association between cyberbullying and the aforementioned constructs will be examined as in the trolling. In this way, the conditional effects of different forms of aggression will be investigated.

When trolling and cyberbullying are evaluated in this framework, it is possible that the aggressive style of trolls and cyberbullies in online platforms can be closely associated with relational aggression. Furthermore, the strength of the associations between trolling/cyberbullying and predictors may depend on levels of overt and relational aggression. Based on this information, it was hypothesized that both trolling and cyberbullying will be positively associated with relational aggression (H4). Moreover, the association between trolling/cyberbullying and other constructs will be moderated by overt and relational aggression (H5).
1.4 Motivations behind Trolling and Contextual Nature of Trolling

Other researchers have studied the reasons, contextual nature and demographic predictors of trolling. Thacker and Griffiths (2012) investigated type and reasons for trolling and the effects of trolling on self-esteem in an online game. According to findings, a typical troll is young, male, and tended to stay longer in the gaming environment. Amusement, boredom, and revenge were the reasons for trolling. In line with this finding, a recent study examining demographic and psychological predictors of social media trolling also found that being male is the predictor of social media trolling. Greater need for participation in social media and a greater likelihood of making downward social comparisons are other predictors of trolling (Howard et al., 2019). Another study examined motivation in addition to the gender on the perceptions of and reactions to trolling (Fichman & Sanfilippo, 2015). Confusion, curiosity, and instigation were the motivations for trolling for women but malevolence was the primary motivation for men. It was also found that the effect of trolling in the community did not differ as a function of sex of trolls. Context effect was examined in another research by Cheng et al. (2017) and it was found that negative mood and witnessing trolling posts increased the possibility of trolling.

Unlike previous studies, Maltby et al., (2015) examined the conceptions of individuals related to psychological resilience to trolling with three studies. Attention-conflict seeking, low self-confidence, viciousness, being uneducated, and amusement were emerging factors for trolling. Among them, attention-conflict seeking, viciousness, and being uneducated predicted unique variance in predicting trolling in study 2. In the third study, findings showed that when one considers an online troll as seeking attention, a decrease in the individual’s negative affect is observed.

Last, a recent research examined predictors and types of trolling with an online survey. To determine the types of trolling, a new scale was developed and four types of trolling were identified: malicious trolling, evocative trolling, obstruction trolling, and pathological trolling. Sense of inferiority, social extraversion, depression, being the victim of trolling, and frequent posting of texts on Facebook were the predictors of
trolling (Hong & Cheng, 2018). Except for being the victim of trolling, other predictors were pretty new. Moreover, different types of trolling were investigated for the first time in this study.

Overall, these studies focused on the profile and motivation of individuals engaging in trolling and contextual nature of trolling in general. They also examined how trolling victims are influenced by online bullying. However, different studies revealed different circumstantial motivations for trolling. At this point, a well-grounded theory can provide a more parsimonious explanation for the motivations for trolling. For a systematic examination, propositions of self-determination theory including basic psychological needs and aspirations will be used in Study 2. In addition, the present research will also examine some relevant constructs, self-esteem, need for recognition and aggression, that will help differentiating trolling from cyberbullying and broadening limited understanding about trolling in Study 1.

1.4.1 Self-Determination Theory

SDT is a macro theory of human motivation. Personality development and behavioral self-regulation are the main research fields of the theory (Ryan, Kuhl, & Deci, 1997). The theory focuses on self-determined behavior and the social context that influences this behavior. SDT claims that the surrounding social environment can either facilitate or frustrate well-being, activity, and growth (Deci & Ryan, 2000). Accordingly, support from the social environment is necessary for healthy development and functioning (Deci & Vansteenkiste, 2004). Furthermore, the theory examines some basic life issues such as personality development, psychological needs, life goals, aspirations, motivation, energy and vitality, associations between culture and motivation, influences of social environment on motivation, affect and well-being (Deci & Ryan, 2008). The theory has been utilized in a variety of life issues within a wide range of applied fields, such as sport, business, health care, and education.

As already mentioned, trolling contains a sample of behaviors attempting to create conflict and distress through menacing comments in online platforms (Bishop, 2014;
Buckels, Trapnell, & Paulhus, 2014; March & Marrington, 2019). Basic need satisfaction and aspirations concepts of SDT may shed light on the characteristics of people engaging in trolling and why people perform trolling behavior despite its adverse effects on others.

1.4.2 Basic Need Satisfaction and Trolling

The concept of human needs is helpful in understanding how a variety of social forces and interpersonal environments impact motivation (Deci & Ryan, 2008). In SDT, it is considered that the underlying motivational mechanism driving actions of individuals is basic need satisfaction. The theory claims that satisfaction of basic psychological needs, autonomy, competence, and relatedness, is essential for positive well-being outcomes such as self-esteem, life satisfaction and vitality, whereas frustration of them leads to ill-being outcomes such as anxiety, depression, and alienated functioning (Deci & Ryan, 2000). Furthermore, according to SDT, these needs are innate and have to be satisfied for healthy development and optimal functioning (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). They are defined as essential experiential nutriments for individuals to thrive and function to the maximal extent and to understand the reasons for goal pursuit (Deci & Ryan, 2000; Ryan & Deci, 2008).

Briefly, autonomy refers to performing actions with a sense of self-determination, freedom of choice, and volition (Ryan & Deci, 2002; Van den Broeck et al., 2010). Basically, if an individual initiates and performs behaviors voluntarily and embraces these behaviors and values within these behaviors, s/he is assumed to be autonomous (Deci & Ryan, 1985). These behaviors should also be meaningful and valuable to the individual for the satisfaction of autonomy need. Autonomy has a central role in optimal functioning and effective behavioral outcomes (Deci & Ryan, 2008). Accordingly, autonomy need satisfaction was found to be associated with purpose in life (Ferrand, Martinent, & Durmaz, 2014). As already mentioned, except for paid trolls and ideologically driven trolls, regular trolls perform trolling behavior without
an instrumental purpose (Buckels et al., 2014). Therefore, it seems that it is unlikely for an individual who satisfied autonomy need to perform trolling behaviors.

Although there is no research examining the link between trolling and basic needs directly, a past research offers an indirect evidence. It was shown that parental autonomy support is associated with lower cyberbullying perpetration of adolescents through autonomy need satisfaction which in turn predicted more empathic concern for others (Fousiani, Dimitropoulou, Michaelides, & Petegem, 2016). In line with this, Sest and March (2017) found that trolling was predicted by lower levels of affective empathy, meaning that trolls do not have empathic concern for their victims. Moreover, an experimental past research showed that priming controlled motivation leads to get pleasure from hostile humor whereas priming autonomy motivation cause enjoyment of non-hostile humor (Weinstein, Hodgins, & Ostvik-White, 2011). As remembered, past research stated that trolls use a derogatory and annoying style in their comments (Ghoshall, 2015; Nudd, 2015; Synott et al., 2017), so it can be claimed that they enjoy hostile humor. It may also be argued that since they like hostile humor, trolls have not satisfied their autonomy need. Based on this, it was expected that autonomy need satisfaction will predict trolling negatively. In other words, it is less likely that individuals who are high on autonomy need satisfaction perform trolling.

Second, competence refers to the desire to feel effective while interacting with the environment. Individuals have an inherent propensity to explore and manipulate the surrounding environment. Behaviors providing a sense of growth, optimal challenge and informational feedback facilitate satisfaction of competence need (Ryan & Deci, 2002). Accordingly, it is prominent in competent individuals to perform challenging tasks and excel the skills (Van den Broeck et al., 2010). Unlike autonomy, to the best of our knowledge, there is no research to date explicitly examine the role of competence in cyberbullying and trolling. However, there may be an indirect evidence depending on the past research. Concerning online competence, Selwyn (2008) found that perception of the Internet competence is associated with engaging in online misconduct. As already mentioned, trolling is considered as a form of online misconduct or online harassment (e.g., Corcoran et al., 2015; Troll, 2010).
Accordingly, when victims take the bait, trolls may consider it as an informational feedback regarding their success and then they feel competent. As a result, they may continue trolling to satisfy competence need. In addition, success was reported as one of the components of trolling (Hardaker, 2010, 2013) and successful trolling requires obtaining a sincere response from the victims after the provocative comments are read (Hardaker, 2010; Herring et al., 2002). Therefore, after their successful trolling behavior and obtaining sincere responses from the victims, trolls may feel a sense of accomplishment.

Moreover, a past research showed that enjoyment of griefing, which is described as intentionally harming enjoyment of others for the sake of one’s enjoyment (Ross & Weaver, 2012) and considered as a type of trolling in the online gaming context (Griffiths, 2014), is the highest when all needs are satisfied, including competence (Paul, Bowman, & Banks, 2015). It was argued in this study that the accomplishment of the goals in the game by exploiting loopholes may satisfy competence need. Given this supportive evidences, it can be claimed that engaging in trolling may also satisfy competence need. Instead of engaging in healthy interactions, trolls write offensive and provocative comments and give misleading information to others. By doing these activities, they may feel competent in an unusual way as the griefers. However, another possibility may be that the individuals who are already high on competence need satisfaction prefer to perform trolling. In addition to offline competence, these individuals may also have a sense of online competence, leading them to engage in trolling. In such a way that they may incline to troll as they tend to pursue activities providing competence need satisfaction (Ryan & Deci, 2002). The latter possibility will be tested in the present research. In brief, as the individuals who feel Internet competence perform online misconduct (Selwyn, 2008), these individuals may also perform trolling, a form of online harassment. Therefore, it was expected that competence need satisfaction will predict trolling positively.

Third, relatedness refers to feeling a genuine sense of connectedness and desire to maintain meaningful and close relationships with others (Ryan & Deci, 2000; Ryan & Deci, 2002). Accordingly, close, high-quality relationships and a sense of communion
provide individuals with the satisfaction of relatedness need (Deci & Ryan, 2000; Van den Broeck et al., 2010). Previous research suggests that social interaction is a strong motive for individuals using social networking sites (Smock, Ellison, Lampe, & Wohn, 2011). However, it is also possible that online misbehaviors, when performed in isolation, can satisfy relatedness need. As shown in the past research (Paul et al., 2015), enjoyment among the griefers is the highest when all needs are satisfied, including relatedness, as already discussed above. It was argued in this research that gaining an online identity as a griefer may bring about relatedness need satisfaction because these griefers may feel a sense connection with other griefers, rather than the general gaming members. Members of a griefer community have also share the same style with other members of the community in general. Therefore, it may be easier for these isolated groups to be connected with each other.

However, it may be claimed that even an interaction starts between a troll and the victim, the quality of these types of interactions would not be high. A genuine sense of connectedness to occur, sincere interactions should take place, rather than deceptive ones. Therefore, it may be claimed that the individuals who are already high on relatedness need satisfaction do not engage in trolling. Based on this, it may be claimed that relatedness need satisfaction predict trolling negatively. In other words, individuals who are high on relatedness need satisfaction do not engage in trolling, as in the autonomy need.

Last, the moderating role of gender in the link between basic needs and trolling will be investigated. The role of gender in online behaviors (including cyberbullying) has been well established across the studies. For example, males are higher in overall Internet use and perform online antisocial behaviors more frequently than females including Internet addiction and problematic Internet use (e.g., Joiner et al., 2005; J. Kuss, Griffiths, & Billieux, 2014) and cyber dating abuse (e.g., Zweig, Dank, Yahner, & Lachman, 2013). Moreover, a limited number of previous researches on trolling used gender as a predictor (e.g., Craker & March, 2016; Sest & March, 2017). However, since trolling research has yet to flourish, it would be useful to examine the interactions between gender and propositions of SDT in predicting trolling. Whether
the associations between basic needs satisfaction and trolling change as a function of sex can be explored in this way. Furthermore, basic needs are considered as more fundamental aspects of self-regulation over need substitutes, such as extrinsic aspirations, which will be explained in the next section (Ryan & Deci, 2000). Thus, examining the moderating role of gender in the link between basic needs and trolling will be more useful. Based on these, it was hypothesized that gender will moderate the link between basic need satisfaction and trolling (H6).

Over the years, online platforms have been popular for researchers examining the relationship between the Internet use and psychological need satisfaction (Wang, Tao, Fan, & Gao, 2015). Previous research revealed the utility of examining need satisfaction in explaining media enjoyment (Reinecke, Vorderer, & Krop, 2014; Tamborini, Bowman, Eden, Grizzard, & Organ, 2010). For instance, research showed that participating in online games satisfy all basic needs since online games provide users with choices (autonomy), achievement through completion of challenges and duties (competence), and interactions with other gamers (relatedness) (Hsu, Wen, & Wu, 2009; Kandell, 1998; Yee, 2006). Moreover, perceived in-game autonomy and competence were related to game enjoyment and future game play (Ryan, Rigby, & Przybylski, 2006). Using social networking sites can also satisfy autonomy, competence (Reinecke et al., 2014), and relatedness needs (Sheldon, Abad, & Hinsch, 2011). These findings show that online platforms can be conducive environments for the satisfaction of basic needs. However (to prevent confusion), the focus of the present research is to investigate the associations between psychological need satisfaction and performing trolling. In other words, whether the individuals who are already high on need satisfaction (autonomy, competence, and relatedness) perform trolling or not will be investigated.

1.4.3 Life Goals and Trolling

Long-term goals, which individuals have in order to guide their behaviors, have been focused on within the SDT framework. Austin and Vancouver (1996) described goals
or aspirations as internal representations of desired outcomes. It is essential to adopt various goals while adapting to the surrounding social environment as these goals constitute the part of personality after a while (Sheldon & Kasser, 1995). To understand the present and future behavior of the individuals, their personal goals can be examined because the goals show future orientation and meaning of life for the individuals (Ingrid, Majda & Dubravka, 2009). In this sense, examining the aspirations of trolls can be a useful framework in terms of understanding the origins of their malicious behavior.

Empirically, two types of aspirations, intrinsic and extrinsic, were defined (Kasser & Ryan, 2001). Intrinsic aspirations include meaningful relationships, personal growth, and community contributions and extrinsic aspirations include wealth, fame, and image. It was asserted that intrinsic aspirations are naturally consistent with the growth tendencies of humans. Therefore, intrinsically oriented individuals are concerned with aspirations of self-acceptance, affiliation, and community contribution (Kim, Kasser, & Lee, 2003). Extrinsic aspirations, on the other hand, are less consistent with human nature since they are influenced by the prevalent culture and the surrounding environment. In addition, obtaining symbols of social status and positive evaluation of others is crucial for the individuals striving for extrinsic aspirations. Accordingly, individuals with extrinsic aspirations focus on enhancing their wealth, image, and popularity (Kim et al., 2003).

It was claimed that goals that people adopt to strive to have different effects on basic need satisfaction and well-being (Kasser & Ryan, 1993). Studies showed that concern about intrinsic goals is associated with positive indicators of well-being, such as higher life satisfaction, happiness, higher self-esteem, and fewer experiences of depression and anxiety (Kasser & Ryan, 1993, 1996). However, investment in extrinsic aspirations or focus on extrinsic aspirations does not contribute well-being and often results in negative outcomes such as anxiety, depression, and negative affect (Ingrid et al., 2009). Aspirations Index (Grouzet et al., 2005) was developed to measure individuals’ aspirations and they have been measured with regard to their strength or importance for the individuals.
Although some researchers assume that aspirations are similar to needs and motives, they are not considered as needs within the SDT perspective. This is because the needs are essential nutriments for the well-being. Aspirations, on the other hand, are learned desires that are acquired depending on the satisfaction or frustration of the basic needs for autonomy, competence, and relatedness over time. For instance, when needs are thwarted, individuals tend to adopt extrinsic aspirations, which bring about external indicators of worth instead of internal indicators of worth, which normally come from need satisfaction. In this respect, extrinsic aspirations can be considered as need substitutes since the pursuit of them does not provide individuals with genuine satisfaction of the needs (Deci & Ryan, 2008; Ryan & Deci, 2000).

For the aim of this study, intrinsic aspirations of personal growth and community contribution, and extrinsic aspiration of fame will be of interest. Personal growth necessitates the development of a sense of self, which in turn affects autonomy need satisfaction positively. A developed sense of self provides individuals with insight about the reasons for their behaviors, freedom of choosing their actions instead of boundaries set by others, and evaluating whole life as meaningful and complete (Williams, Cox, Hedberg, & Deci, 2000). Depending on this information, it may be claimed that trolls might not give importance to personal growth since they have no instrumental purpose in performing trolling and even choose their victims randomly. Although they also have freedom of choice in terms of how, where, and when to perform trolling, they may not think about the real reasons for trolling, other than enjoyment, boredom, and attention. It was hypothesized that there will be a negative association between trolling and intrinsic aspiration of personal growth (H7).

As remembered, trolls disrupt discussions in online forums, especially the ones that sensitive topics are discussed, such as feminist and political forums (Bishop, 2014a; Herring et al., 2002). Specific Facebook and WhatsApp groups, YouTube videos, and Twitter can also be fruitful platforms to post inflammatory content for trolls to disrupt the smoothness of the discussions. In these platforms, variety of problems, including large-scale problems are discussed and possible solutions are offered. As a result of trolling, some problems can be missed and may not be discussed. Even individuals
may fear to post something to these groups due to the stress and disturbance of the possibility of being trolled. Therefore, it can be asserted that trolls do not give importance to community contribution. It is precisely in this framework where it seems useful to analyze the role that intrinsic aspiration of community contribution plays in trolling. Considering this information, it was hypothesized that there will be a negative association between trolling and intrinsic aspiration of community contribution (H8). More specifically, community contribution will be negatively predictive of trolling.

Last, extrinsic aspiration of fame may have a predictive utility of trolling behaviors. As mentioned previously, some trolls are famous as a group, such as anti-McCanns, due to their continuous successful trolling (Synnott et al., 2017). Furthermore, some forums were also trolled continuously and trolls become famous in these groups (e.g., Herring et al., 2002). It can be claimed that continuous trolling brings about fame and trolls appreciate it. They may tend that one should be a famous troll to feel worthy in the online world. Therefore, they may insistently engage in trolling to be known by others. In light of this information, it was hypothesized there will be a positive association between engaging in trolling and extrinsic aspiration of fame (H9).

1.5 The Present Study

Several studies have examined trolling from a multidisciplinary perspective. Definition, some common characteristics, and themes of trolling, strategies to handle tolling, and motivations behind trolling were tried to be determined in these studies. In psychology-based studies, on the other hand, dark personality traits were the most examined constructs to predict trolling, in addition to the motivations for trolling. Trolling research has yet to be a developed field and in which aspects trolling is different from cyberbullying is not clear. Therefore, the current study aimed to contribute to limited trolling literature by distinguishing trolling from cyberbullying and improving further the understanding of trolling. To accomplish these goals, first, a qualitative study, as a pilot study, will be conducted to determine all possible websites that trolling is performed and the main reasons to engage in trolling in order
not to miss any crucial information about trolling. Given the exploratory nature of the study and difficulty in reaching trolls, conducting the pilot study will be extremely informative and guiding for the subsequent studies.

After the pilot study is completed, dark personality traits, self-esteem, and need for recognition were analyzed to see whether trolls and cyberbullies can be differentiated by these constructs in Study 1. Basic psychological need satisfaction and aspirations index concepts will be utilized in Study 2 for a more detailed understanding of trolling within the SDT framework. Overall, Study 1 aimed to differentiate trolls from cyberbullies, examine unique predictors of trolling and cyberbullying, and to show whether trolling is a distinct construct from cyberbullying. Study 2 aimed to analyze further trolling from a well-validated SDT framework to provide more detailed information about trolling. The following hypotheses will be tested in the current study. Among them, H1, H2, H3, H4, and H5 will be tested in Study 1 and the remaining hypotheses will be tested in Study 2.

H1: Psychopathy levels of cyberbullies will be higher than trolls and individuals who have never engaged in trolling and cyberbullying.
H2: Trolls and cyberbullies will have lower levels of self-esteem than individuals who have never engaged in trolling and cyberbullying.
H3: Trolls will have higher levels need for recognition than cyberbullies.
H4: Trolling and cyberbullying will be positively associated with aggression.
H5: The association between trolling/cyberbullying and other constructs will be moderated by overt and relational aggression.
H6: Gender will moderate the link between basic need satisfaction and trolling.
H7: There will be a negative association between trolling and intrinsic aspiration of personal growth.
H8: Intrinsic aspiration of community contribution will be negatively predictive of trolling.
H9: There will be a positive association between engaging in trolling and extrinsic aspiration of fame.
It is necessary in the present dissertation to examine the differences between trolling and cyberbullying as these two forms of online harassments are confused and trolling is assumed as a milder form of cyberbullying. To date, there has been only one past research comparing the differences between trolling and cyberbullying directly (Zezulka & Seigfried-Spellar, 2016) by self-esteem, five-factor model, and moral-decision making. Following this earlier work, the current dissertation aimed to replicate some of the findings of Zezulka and Seigfried-Spellar (2016) and broaden the limited literature by investigating additional constructs. Based on this, Study 1 examined the differences between trolling and cyberbullying by dark triad (Machiavellianism, psychopathy, and narcissism), need for recognition, and self-esteem.

2.1 Pilot Study: Qualitative Interviews with Self-Confessed Trolls

Before starting the main data collection, a pilot study was conducted with self-confessed trolls. The aim of the pilot study is to collect as much information as possible and take the perspective of trolls into consideration, rather than the victims or the observers of trolling events. Conducting interviews with the self-confessed trolls seems as a useful way to obtain accurate information in terms of the reasons to engage in trolling. Following the earlier works of Cook and colleagues (2018) and March and Marrington (2019), semi-structured interview questions were prepared and both face-to-face and phone interviews were conducted with self-confessed trolls. To determine the
individuals with a trolling history, a prescreen survey on Qualtrics were prepared. Depending on their answers on the trolling scales, eligible participants were contacted. Individuals accepting to participate in the interviews were made an appointment for the interview.

2.2 Method

2.2.1 Participants and Procedure

Eight hundred and nine students ($M_{age} = 21.5$, $SD = 7.92$; 66.8% female) from different departments of local universities in Turkey participated in the current study in exchange for extra course credits.

Before the online survey was administered, in-depth interviews were conducted with self-confessed trolls to reach the real trolls and obtain detailed information about trolling because of the exploratory nature of the study. To be eligible for the interview, a participant must have a history of trolling by performing at least one trolling behavior in the last six months in any type of website. For this, trolling scales were prepared in Qualtrics and published. After their answers analyzed, self-confessed trolls received telephone messages giving information about the interview and asking whether they agreed to participate in the qualitative interviews. Seventeen participants (8 females, 9 males; $M_{age} = 21.2$) accepted to participate in interviews. Majority of the interviews were conducted in a psychology laboratory face-to-face but when a face-to-face meeting was not possible, phone interviews were conducted. In terms of the wealth of information, there is no considerable difference between the two forms of interviews. The interview included 13 questions and took approximately 10 minutes in duration. All participants were university students and using a variety of online platforms, mainly Facebook and Instagram.
After completion of the interviews, an online survey package was provided to
participants via Qualtrics, including demographic questions (age, gender, education,
department), and actively used online platforms were also indicated by participants.

2.3 Measures

2.3.1 Qualitative Interview Questions

In total, 13 questions were prepared depending on the past research investigating
trolling deeply through qualitative methods for the interviews (Cook et al., 2018;
March & Marrington, 2019; Sanfilippo et al., 2017). The current study advertised as a
questionnaire investigating attitudes toward online interactions. In subsequent studies,
this method was used due to the nature of the study. Participants provided demographic
information and qualitative answers to the questions. Example items: “How do you
define trolling” and “Are trolling and cyberbullying different from each other”.

2.3.2 Global Assessment of Facebook Trolling

Trolling on the Internet was intended to measure with the combination of two scales
to increase the content validity of the trolling construct. The first scale is the Global
Assessment of Facebook Trolling (GAFT; Craker & March, 2016) with 9 items. It is
a single factor scale with 3 reverse coded items. An example item from the scale: “I
enjoy upsetting other people on Facebook”. Participants rated the items on a scale of
1 (strongly disagree) to 7 (strongly agree). The wording of the scale adapted to the
Internet context and translated into Turkish. Cronbach’s α was .61 in the current study.
However, this scale was not used in the analysis due to the low reliability coefficient.
2.3.3 Cyberbully/Troll Deviancy Scale

The second scale is Cyberbully/Troll Deviancy Scale (CTDS; Zezulka & Seigfried-Spellar, 2016). For the aim of this study, the trolling subscale was used. Participants indicated how many times they engaged in the behavior in question in the last six months. In total, the trolling subscale has 13 items which were rated on a 1 (never) to 7 (decline to respond). An example item from the scale: “Insulting someone that you did not know in an interactive game room”. These two scales measure trolling behavior implicitly. In such a way, individuals rate the behaviors without seeing the word “trolling”. In other words, behavioral manifestations of trolling are rated. To avoid confusion, the first trolling scale will be labeled as “attitudes toward trolling”, while the latter will be labeled as “behavioral trolling” since the latter scale includes behavioral indicators of trolling. Some minor modifications were made on wording of the Troll Deviancy Scale. To represent general Internet use, specific labels were removed and “online environments” were written. In this way, more prevalent trolling behaviors were aimed to be detected. In addition to the author of this dissertation, one professor and one doctoral student knowledgeable about the topic translated the items of this scale into Turkish. Reliability analyses showed that Cronbach’s $\alpha$ of the scale was .90 for the present study.

2.3.4 Sarcastic Trolling

After qualitative interviews were completed, 8 new items (originally written in Turkish) were written and added to the Troll Deviancy Scale depending on the themes observed in the answers of self-confessed trolls. These new items were the ones that were most frequently mentioned in the interviews and measure additional behavioral indicators of trolling. The whole scale was applied to a few people to detect shortcomings of the items before the main data collection period. If the items were ambiguous or confusing due to the translation, some modifications on them were made before data collection. Reliability analyses showed that Cronbach’s $\alpha$ was .92 for the
newly added 8 items. A total mean score was computed and used in the analyses together with the Troll/Deviancy Scale in the current study.

2.3.5 Revised Cyberbullying Inventory

Cyberbullying was measured with the second version of the Revised Cyberbullying Inventory (RCBI-II; Topcu & Erdur-Baker, 2018). The scale has 10 items and two scoring columns. Participants rated two versions of the same item (for their experience as a victim and offender) but for the current study, they only rated how many times they engaged in cyberbullying in the last six months on a 1 \textit{(never)} to 4 \textit{(more than three times)} scale. Sample items from the scale: “spreading rumor”, “creating a humiliating website”. Higher scores indicated higher incidence of cyberbullying. Cronbach’s $\alpha$ was .68 in the current study.

2.3.6 Rosenberg Self-Esteem Scale

Self-esteem was measured with 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale has a single factor and responses are coded on a 1 \textit{(strongly disagree)} to 7 \textit{(strongly agree)}. The RSES composed of an equal number of positively and negatively worded items. Example items from the scale: “On the whole, I am satisfied with myself” and “I feel I do not have much to be proud of”. Higher scores indicate higher self-esteem. The scale was adapted to Turkish by Cuhadaroglu (1986). Cronbach’s $\alpha$ was .87 in the present study.

2.3.7 Need for Recognition Scale

Need for recognition was measured with 15-item Need for Recognition Scale (NRS; Imamoglu, 2001b), including subscales of attention-seeking, easy-reward seeking, and acknowledgment-seeking. Example items from the scale: “I like being flattered” (easy-reward seeking), “It is not important for me to be known and liked person but to
be able to do what I want to do” (attention-seeking), “Whatever job I do, I want to work as having a certain title” (acknowledgment seeking). Participants rated the items on a 1 (strongly disagree) to 7 (strongly agree) scale. Higher scores indicate higher levels of need for recognition. Cronbach’s α was .87 in the present study. A total mean score was computed and used in the analyses, as suggested by Imamoglu (2001b).

2.3.8 Instrumental Aggression

To measure aggression, two dimensions of aggression were measured among the four principle dimensions of aggressive behavior (Little, Jones, Henrich, & Hawley, 2003). Instrumental overt aggression was measured with six items. One sample item from the scale: “I often threaten others to get what I want”. Instrumental relational aggression was also measured with 6 items. One sample item from the scale: “To get what I want; I often ignore or stop talking to others”. All items were rated on a 1 (strongly disagree) to 7 (strongly agree) scale. Higher scores indicate higher levels of aggression. Cronbach’s α was .86 for overt aggression and .85 for relational aggression in the present study.

2.3.9 Short Dark Triad

Short Dark Triad (SD3; Jones & Paulhus, 2014) was used to measure socially aversive personality traits, namely Machiavellianism, narcissism, and psychopathy. It is a 27-item measure with 5 reverse-scored items. Each subscale is formed by averaging all items. Sample items from the scale: “It is not wise to tell your secrets” (Machiavellianism), “I hate being the center of attention” (narcissism, reverse), and “People who mess me always regret it” (psychopathy). Items were rated on a 1 (strongly disagree) to 7 (strongly agree) scale. The scale was adapted to Turkish by Özoys, Rauthmann, Jonason, and Arduç (2017). Cronbach’s α was .80 for Machiavellianism, .67 for narcissism, and .68 for psychopathy.
2.3.10 Marlowe-Crowne Social Desirability Scale

Social desirability was measured with Marlowe-Crowne Social Desirability Scale. Original scale was developed by Gosling, Rentfrow, and Swann (2003) and had 33 items. For this research, shorter version of the scale (7 items) that was developed by Ural and Özbirecikli (2006) was used. Items were rated on a 1 (strongly disagree) to 7 (strongly agree) scale. This scale was used in this research since engaging in trolling and cyberbullying is problematic and offenders may have a propensity to troll the measures. Cronbach’s $\alpha$ was .68 in the current study.

2.4 Results

2.4.1 Interviews-Trolling Definitions

In total, 17 participants (8 females) were interviewed. They were all university students. Throughout the interviews, key points were taken in note. Since interviews were conducted as a pilot study, an audio record was not taken. In the questions about trolling behaviors, participants were requested to give their own definitions. Mainly, their definitions of trolling and examples of trolling were in line with the literature. The majority of the participants defined trolling as disrupting the flow of constructive discussions, deceiving victims, and making provocative comments. When they were requested to give examples of trolling behaviors, most of them stated that making annoying, irrelevant, and contradictory comments, behaving as if misunderstand the topic in question, and mocking were the examples of trolling. Other than these, some participants mentioned that implying exactly the opposite of the thought they had in mind was also a trolling behavior for them.
2.4.2  Difference between Trolling and Cyberbullying

Most of the participants stated that they know that trolling and cyberbullying are different from each other. However, only a small minority of the participants knew the actual difference between trolling and cyberbullying. They mainly stated that trolling and cyberbullying are similar and there are slight differences between or trolling is a type of cyberbullying.

2.4.3  Being a Victim of Trolling

The majority of the participants indicated that they had been trolled before and they described this experience funny and enjoyable. However, some of them stated that they had felt nothing. A few participants also mentioned feeling of being deceived. Three different answers were emerged. One participant indicated that negative feelings can depend on by whom you were trolled. Another participant stated that she had surprised because she had thought that she is not the kind of person who takes the bait. Last, one participant said that when she had understood that the aim of trolls had been to annoy others, she had laughed and had not cared about being a victim of trolling.

2.4.4  Trolling Frequency and Online Platforms

The frequency of engaging in trolling was pretty unsteady among the participants. Some participants stated that they engage in trolling every day, while some others said they rarely engage in trolling. Some of them indicated the frequency of trolling once in a week or a couple of weeks. In terms of online platforms, Facebook, Instagram, and Twitter were the websites that trolling is performed most frequently by the participants. In addition to these, YouTube, WhatsApp, and Reddit were the other online platforms that participants mentioned.
2.4.5 Reasons and Targets of Trolling

In the question regarding reasons for trolling, participants stated why they troll and whom they choose to troll. They listed more than one reason in general. More than half of the participants stated that they engage in trolling just for fun and humor. Specifically, they indicated that they want others to enjoy when reading their humorous comments. The next reason stated frequently was boredom. Ego satisfaction, mutual enjoyment, and trying to cover one’s own shortcomings through someone else’s shortcomings were stated by only one participant but it can be considered as closely associated with other two participants’ statements regarding the reasons of trolling: “demonstrating the facts and truths sarcastically that other individuals do not know and erroneously think that they know”. When they were asked which individuals they target to troll, the majority of the participants said that they choose their targets randomly. However, close friends and acquaintances were mentioned several times. In addition, two participants stated that people who do not need to defend themselves after being trolled, who have a sense of humor, and who realize that there is no cruel intention in trolling were their targets.

2.4.6 Online and Offline Trolling and Feelings after Trolling

When participants were asked whether they also engage in offline trolling in their daily life, more than half of the sample stated that they engage in trolling in daily life but mostly their close friends. The answer of one participant to this question clarified this situation. This participant stated that when online, he trolls people who are not familiar to himself since there is no consequence for him whereas he trolls his close friends in the offline world. These participants think that since one can guess the reaction of close friends in the offline world, s/he feels comfortable while trolling them. However, other people who are not close to themselves are unpredictable with regard to their reactions, thus trolling them in online platforms is safer as compared to trolling them in the offline world.
The feelings after trolling are diverse. Although more than half of the participants indicated that they feel amused, five members of the sample felt accomplished and competent after trolling. They stated that they did something they had to do because this thing had to be said. A few participants indicated that they feel guilty if the victim feels bad after being trolled.

2.4.7 Success after Trolling and Situations Leading to Trolling

In the final set of questions, whether participants care about the reactions of victims and situations leading them to troll were asked. The majority of the participants did not care whether victims take the bait or not. They stated that they just make their comments and do not follow what happens afterward. A few of them said that they follow the comments of the victim whether the victim takes the bait or not after being trolled. When questioned regarding the situations leading them to troll, once more, the respondents gave a variety of answers. For instance, observing that someone is being trolled is a reason for a few participants to engage in trolling. Revenge was stated as a situation for trolling but it can be considered as a reason for trolling as well. Funny posts also attracted the attention of trolls. In addition to these, people asking nonsensical questions that can be learnt easily from Google, people believing ideas in the nonsensical posts and defend these posts in a heated fashion, and seeing the posts or comments of egoist people lead trolls to engage in trolling. Last, seeing political and football posts also cause trolling for some participants.

2.5 Main Analyses

Quantitative analyses were performed in SPSS Version 25. Descriptive statistics and correlations among all variables used in the current study are demonstrated in Table 1. As can be seen in Table 1, while attitudes toward trolling correlated positively with cyberbullying, behavioral trolling, need for recognition, instrumental overt and instrumental relational aggression, and psychopathy, it correlated negatively with self-
esteem and social desirability. Cyberbullying correlated positively with behavioral trolling, need for recognition, overt and relational aggression and all dark triads; and it correlated negatively with self-esteem and social desirability. The same pattern was observed in behavioral trolling as well. Therefore, it can be stated that the majority of these associations were in the expected direction with the hypotheses and the literature. Furthermore, the most frequently used online platforms were WhatsApp (87.2%), Instagram (74.3%), YouTube (42.8%), Twitter (32.3), and Facebook (23.4%) among the participants. Overall, 11.2% of the sample ($N = 91$) reported at least one cyberbullying behavior, 22.6% ($N = 183$) reported trolling behavior, 32% ($N = 259$) reported that they engaged in both trolling and cyberbullying, and 34% ($N = 276$) reported that they have never engaged in neither of them.

2.5.1 Exploratory Factor Analysis

Depending on the themes observed in the interviews, 8 new items were developed and added at the end of the Troll Deviancy Scale (Zezulka & Seigfried-Spellar, 2016) which was composed of 13 items. In total, 21 items were factor analyzed using principal component analysis with Varimax (orthogonal) rotation to ascertain the underlying factor structure of the scale. Bartlett’s Test of Sphericity and Kaiser–Meyer–Olkin Measure of Sampling Adequacy indicated that data was homogeneous and convenient to proceed with the factor analysis ($KMO = .91$, $\chi^2 (210) = 10649.111$, $p < .001$). The factor structure of the original scale (Troll Deviancy Scale) was not reported by the authors, thus the factors obtained from the analyses were not named. Three factors with eigenvalues greater than 1 were emerged. Scree plot also indicated three-factor solution.

The analysis yielded 3 factors explaining a total of 62.21% of the variance for the entire set of variables. The first factor, named as sarcastic trolling, with an eigenvalue of 8.99 explained 25.64% of the variance. All items in this factor were 8 items written after the interviews. The second factor had an eigenvalue of 2.86 and accounted for 19.09% of the variance. The last factor had an eigenvalue of 1.22 and explained
17.48\% of the variance. As it can be seen in Table 2, only one item which belongs to the original scale (Çevrimiçi bir şekilde tanımadığımız birine hakaret etmek / Insulted someone that you did not know in an interactive game room) had high loadings with all factors. Overall, the results demonstrated that 8 items constituted the first factor and explained more variance as compared to items in the original trolling scale. Moreover, in previous research (Zezulka & Seigfried-Spellar, 2016) the factor structure of the trolling scale has not been reported even though it had been developed newly. Results suggested that new factor, sarcastic trolling, can be used together with the Troll Deviancy Scale since it measures additional behavioral domains of trolling which were not covered in the original scale. The correlation between sarcastic trolling and original trolling scale is .57 \((p < .01)\), indicating the convergent validity (a subtype of construct validity) of the newly developed subscale.

### 2.5.2 Hypothesis Testing

To test the first, second, and third hypotheses of the study, a one-way multivariate analysis of variance (MANOVA) was performed. Self-esteem, need for recognition, Machiavellianism, narcissism, psychopathy, and social desirability were the dependent variables. Three categorical groups were formed depending on the scores of participants in the trolling and cyberbullying scales. Individuals who have never engaged in both trolling and cyberbullying were coded as 0, cyberbullies were coded as 1, and trolls were coded as 2. Results showed that Box’s M value of 43.67 \((p = .44)\) is non-significant, indicating that the assumption of the equality of covariance matrices are equal is met. A statistically significant MANOVA effect indicated that there was a significant difference in groups, \([F (12, 1012) = 2.11, p = .007; \text{Wilk's } \Lambda = .95, \text{ partial } \eta^2 = .03]\). Descriptive statistics are shown in Table 3 and the test of between-subjects effects is shown in Table 4.
Table 1. Correlations between Study Variables and Descriptive Statistics.

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<td>7. Need for Rec.</td>
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<td>8. Overt Aggression</td>
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<td>.28**</td>
<td>.46**</td>
<td>.44**</td>
<td>.43**</td>
<td>.34**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Social Des.</td>
<td>-.04</td>
<td>-.16**</td>
<td>-.31**</td>
<td>-.20**</td>
<td>-.20**</td>
<td>.31**</td>
<td>-.16**</td>
<td>-.25**</td>
<td>-.24**</td>
<td>-.06</td>
<td>-.04</td>
<td>-.27**</td>
<td></td>
</tr>
</tbody>
</table>

|M       |   |    |    |    |    |    |    |    |    |    |    |    |    |
|SD      |   |    |    |    |    |    |    |    |    |    |    |    |    |
|α       | .61 | .68 | .92 | .87 | .77 | .86 | .86 | .80 | .67 | .68 | .68 | .68 |    |

Table 2. Factor Loadings, Explained Variance, Eigen Values, and Cronbach’s Alphas for the Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Loadings</th>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Writing humorous/witty comments online to people whom I see</td>
<td></td>
<td>Factor 1:</td>
<td>.86</td>
<td>.05</td>
<td>.14</td>
</tr>
<tr>
<td>advocating obviously absurd ideas</td>
<td></td>
<td>($\alpha = .91$); eigenvalue = 8.99; explained variance = 25.64%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Apaçık bir şekilde saçma fikirler savunduğunu gördüğüm insanlara online)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(çevrimiçi) bir şekilde espirili/şaka yollu yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Writing humorous/witty comments in online platforms to someone’s</td>
<td></td>
<td></td>
<td>.85</td>
<td>.05</td>
<td>.18</td>
</tr>
<tr>
<td>posts on a topic that I see the other party has wrong information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Online (çevrimiçi) ortamlarda karşı tarafın yanlış bilgi sahibi olduğunu gördüğüm bir konuda kişinin paylaşımlarına espirili/şaka yollu yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Writing humorous/witty comments to the content (e.g., news, status</td>
<td></td>
<td></td>
<td>.81</td>
<td>.08</td>
<td>.12</td>
</tr>
<tr>
<td>updates etc.) which I obviously know that is a lie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Apaçık bir şekilde yalan olduğunu bildiğim içeriklere (haber içerikli paylaşımlar, durum güncellemeleri vb.) espirili/şaka yollu yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Writing sarcastic comments to the content (e.g., news, status</td>
<td></td>
<td></td>
<td>.79</td>
<td>.23</td>
<td>.11</td>
</tr>
<tr>
<td>updates etc.) which I obviously know that is a lie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Apaçık bir şekilde yalan olduğunu bildiğim içeriklere (haber içerikli paylaşımlar, durum güncellemeleri vb.) alaycı yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Writing sarcastic comments online to people whom I see advocating</td>
<td></td>
<td></td>
<td>.75</td>
<td>.22</td>
<td>.29</td>
</tr>
<tr>
<td>obviously absurd ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Apaçık bir şekilde saçma fikirler savunduğunu gördüğüm insanlara online)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(çevrimiçi) bir şekilde alaycı yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Writing sarcastic comments in online platforms to someone’s post</td>
<td></td>
<td></td>
<td>.76</td>
<td>.22</td>
<td>.28</td>
</tr>
<tr>
<td>on a topic that I see the other party has wrong information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Online (çevrimiçi) ortamlarda karşı tarafın yanlış bilgi sahibi olduğunu gördüğüm bir konuda kişinin paylaşımlarına alaycı yorumlar yazmak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 (cont’d)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Factor 2: (α = .85); eigenvalue = 2.86; explained variance = 19.09%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>While online, writing humorous/witty comments to others in a situation which I feel ignorant/insufficient</td>
<td>(Online (çevrimiçi) iken bilgisiz/yetersiz hissettiğim bir durumda başkalarına espirili/şaka yollu yorumlar yazmak)</td>
</tr>
<tr>
<td>15.</td>
<td>While online, writing sarcastic comments to others in a situation which I feel ignorant/insufficient</td>
<td>(Online (çevrimiçi) iken bilgisiz/yetersiz hissettiğim bir durumda başkalarına alaycı yorumlar yazmak)</td>
</tr>
<tr>
<td>1.</td>
<td>Insulted someone that you did not know in an interactive game room</td>
<td>(Çevrimiçi (online) bir şekilde tanımadığınız birine hakaret etmek)</td>
</tr>
<tr>
<td>5.</td>
<td>Posted to a guestbook saying rude or mean things about a stranger</td>
<td>(Bir yabancı hakkında çevrimiçi (online) bir ziyaretçİ deFTERine kABA ya da kötü niyetli ŞEYLER yazmak)</td>
</tr>
<tr>
<td>8.</td>
<td>Visited a Facebook/website memorial page for a deceased person that you did not know and made negative comments</td>
<td>(Tanımadığınız ölmüş birinin Facebook/internet anma sayfasını ziyaret ederek olumsuz yorumlar yazmak)</td>
</tr>
<tr>
<td>6.</td>
<td>Posted on a website or a comment thread in order to make people that you did not know to make them feel uncomfortable</td>
<td>(Tanımadığınız insanları rahatsız hissettirmeK için çevrimiçi (online) olarak içerik paylaşmak)</td>
</tr>
<tr>
<td>4.</td>
<td>Voted at an online bashing poll saying rude or mean things about someone you did not know</td>
<td>(Çevrimiçi (online) bir ankette tanımadığınız bir kişi hakkındaki kABA ya da kötü niyetli yorumlara oy vermek)</td>
</tr>
<tr>
<td>7.</td>
<td>Posted a comment on Youtube based on an opinion you didn’t actually have in order to cause disturbance playing devil’s advocate</td>
<td>(Şeytanın avukatlığını oynamak adına sırf kargaşaya sebep olmak için, gerçekte sahip olmadığını bir fikri çevrimiçi (online) bir platformda yorum olarak yazmak)</td>
</tr>
<tr>
<td>3. Posted rude comments or lies about a stranger that you did not know online （Tanımadığınız bir kişi hakkında çevrimiçi (online) olarak kaba ya da gerçek olmayan yorumlar yazmak）</td>
<td>.17</td>
<td>.60</td>
</tr>
<tr>
<td>2. Used profanity or insulting language towards a online (just because) Surf canını sıkmak için bir yabancıya çevrimiçi (online) olarak küfretmek ya da aşağılayıcı bir dil kullanmak</td>
<td>.20</td>
<td>.60</td>
</tr>
</tbody>
</table>

**Factor 3:** ($\alpha = .85$); eigenvalue = 1.22; explained variance = 17.48%)

| 13. Posting ambiguous comments on a website/forum in order to cause confusion （Karışıklığı sebep olmak için çevrimiçi (online) olarak, anlamı belirsiz yorumlar yazmak） | .28 | .23 | .80 |
| 11. Given an inappropriate or non-related answer to a question asking for advice in an online forum, website, or social media site to be disruptive （Kargaşaya yol açmak için çevrimiçi (online) bir şekilde, tavsıye almak amacıyla yazılan bir soruya uygunsuz ya da alakasız bir cevap vermek） | .11 | .27 | .76 |
| 12. Became a member of an online group and acted as if you were really interested in the topic of discussion, but later began opposing the beliefs of the group to be disruptive （Çevrimiçi (online) bir grubun üyesi olmak ve bu guba girmek için gerçek tartsıma konusuya ilgileniyormuş gibi davranıp daha sonra kargaşaya yol açmak için grubun inançlarına karşı çıkmaya başlamak） | .12 | .37 | .71 |
| 10. Posted comments on websites with intentions to change the direction of the conversation (go off on a tangent) （Çevrimiçi (online) bir şekilde, tartışmanın yönünü değiştirerek saptırma niyetiyle yorumlar yazmak） | .23 | .21 | .70 |
| 9. Made a comment on social media or a website to make others mad for your own pleasure （Çevrimiçi (online) bir şekilde, kendi eğlenceniz için başkalarını çıldırtacak bir yorum yazmak） | .42 | .23 | .61 |
Table 3. Descriptive Statistics of the Groups Used in MANOVA

<table>
<thead>
<tr>
<th>Category</th>
<th>Neither</th>
<th>Cyber</th>
<th>Troll</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>5.18</td>
<td>4.92</td>
<td>5.20</td>
<td>1.16</td>
<td>1.32</td>
<td>1.25</td>
</tr>
<tr>
<td>Need for Recognition</td>
<td>3.26</td>
<td>3.52</td>
<td>3.17</td>
<td>0.93</td>
<td>0.82</td>
<td>0.84</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>3.37</td>
<td>3.77</td>
<td>3.64</td>
<td>1.23</td>
<td>1.31</td>
<td>1.21</td>
</tr>
<tr>
<td>Narcissism</td>
<td>3.48</td>
<td>3.57</td>
<td>3.54</td>
<td>0.98</td>
<td>1.04</td>
<td>0.95</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>2.24</td>
<td>2.57</td>
<td>2.42</td>
<td>0.93</td>
<td>0.95</td>
<td>0.83</td>
</tr>
<tr>
<td>Social Desirability</td>
<td>5.26</td>
<td>4.90</td>
<td>5.06</td>
<td>1.12</td>
<td>0.98</td>
<td>1.06</td>
</tr>
</tbody>
</table>

*Note.* Neither: Individuals who have never engaged in trolling and cyberbullying. Scales ranged from 1 (strongly disagree) to 7 (strongly agree). Trolling scale ranged from 1 (never) to 7 (more than 6). Cyberbullying scale ranged from 1 (never) to 4 (more than 3).
The first hypothesis stating that psychopathy levels of cyberbullies will be higher than trolls and individuals who have never engaged in trolling and cyberbullying was partially supported, \( F(2, 511) = 5.04, p = .007; \) partial \( \eta^2 = .02 \). Post hoc comparisons using Bonferroni revealed that the only significant difference was between cyberbullies and individuals who have never performed trolling and cyberbullying \( (p = .01) \) and this difference was in the expected direction. Relative to cyberbullies, \( (M = 2.57, SD = .95) \), the individuals who have never performed trolling and cyberbullying \( (M = 2.24, SD = .93) \) scored lower on psychopathy. Machiavellianism scores also showed significant differences between the groups \( F(2, 511) = 4.36, p = .013; \) partial \( \eta^2 = .02 \). Post hoc comparisons using Bonferroni revealed that cyberbullies \( (M = 3.77, SD = 1.31) \) have higher levels of Machiavellianism scores than the individuals who have never engaged in cyberbullying and trolling \( (M = 3.37, SD = 1.23, p = .031) \) as in psychopathy. There were no significant differences between the cyberbullies and trolls or between the trolls and individuals who have never engaged in trolling and cyberbullying \( (p = .08) \). Last, in terms of narcissism, there was no significant difference between the groups \( F(2, 511) = .36, p = .67; \) partial \( \eta^2 = .001 \).
The second hypothesis of the study stating that trolls and cyberbullies will have lower levels of self-esteem than individuals who have never engaged in trolling and cyberbullying was not supported. In other words, self-esteem levels of the three groups were the same, \[ F (2, 511) = 1.70, p = .18; \] partial \( \eta^2 = .001 \]. After that, the third hypothesis stating that trolls will have higher levels of need for recognition than cyberbullies was tested. Results showed that there is a statistically significant difference between groups in terms of need for recognition \[ F (2, 511) = 3.96, p = .02; \] partial \( \eta^2 = .02 \] but interestingly, this difference is not in the expected direction. Post hoc comparisons using Bonferroni indicated that the only significant difference is between trolls and cyberbullies \( p = .02 \). Mean score of trolls \( (M = 3.17, SD = .84) \) was significantly lower than the mean score of cyberbullies \( (M = 3.51, SD = .82) \) for the need for recognition. More specifically, cyberbullies scored higher than trolls in need for recognition.

Last, there was a significant difference between the groups in terms of social desirability \[ F (2, 511) = 3.96, p = .02; \] partial \( \eta^2 = .02 \]. Post hoc comparisons using Bonferroni demonstrated that the only significant difference was between cyberbullies and the individuals who have never engaged in cyberbullying \( p = .02 \) as in the other variables. Cyberbullies \( (M = 4.90, SD = .98) \) scored lower than the individuals who have never engaged in cyberbullying and trolling \( (M = 5.26, SD = 1.12, p = .02) \) in social desirability. In other words, individuals who have never performed cyberbullying and trolling tend to present themselves in a more socially acceptable way as compared with cyberbullies. There were no other significant differences between the groups.

After one-way between subjects MANOVA, a series of hierarchical regression analyses were performed separately on cyberbullying and trolling to examine their predictors and moderating role of aggression. To measure trolling, Troll Deviancy Scale and sarcastic trolling subscale were used together. In all analyses, gender and social desirability were entered in the first step to control their effects. Self-esteem, need for recognition, overt aggression, relational aggression, and dark triad characteristics were entered in the second step, and the all two-way interaction terms
between the predictors were entered in the last step. Overt and relational aggression were the moderators in predicting cyberbullying and trolling. Interaction terms were created by calculating the centered predictor variables and moderators. After that, predictors and moderators were multiplied and entered in the regression model predicting cyberbullying and trolling separately on the last step. Unstandardized (\(b\)) and standardized (\(\beta\)) regression coefficients are shown in Table 5.

First, as it can be seen in Table 5, social desirability (\(\beta = -.19, p < .001\)) and gender (\(M_{\text{female}} = 1.14, SD = .24; M_{\text{male}} = 1.20, SD = .34\)) predicted cyberbullying at the first step (\(\beta = .08, p = .025\)). In the second step, self-esteem (\(\beta = -.09, p = .016\)), narcissism, (\(\beta = .09, p = .026\)) psychopathy (\(\beta = .13, p = .002\)), overt aggression (\(\beta = .27, p < .001\)), and relational aggression (\(\beta = .13, p = .003\)) predicted cyberbullying. In the last step, the interaction of psychopathy and relational aggression were found to be predictive of cyberbullying (\(\beta = .14, p = .037\)) indicating that those individuals with high levels of psychopathy and high levels of relational aggression reported the highest level of cyberbullying (see Figure 1). Interaction of need for recognition and relational aggression was also significant (\(\beta = .11, p = .028\)). Specifically, those individuals with high levels of need for recognition and high levels of relational aggression reported the highest level of cyberbullying as well (see Figure 2). The results revealed that at the first stage, social desirability and gender contributed significantly to the model, \(F(2, 763) = 19.17, p < .001\) and accounted for 5% of the variation in cyberbullying.

Introducing self-esteem, need for recognition, dark triad characteristics, overt aggression, and relational aggression explained an additional 23% of the variation in cyberbullying \(F(7, 756) = 34.053, p < .001\). In the last step, adding interaction terms to the model explained an additional 2% of the variance and this increase was significant \(F(8, 748) = 2.60, p = .008\). In total, 30% of the variance in cyberbullying was explained by this model.

In the second analysis predicting trolling, the same variables were used. Analysis showed that social desirability (\(\beta = -.17, p < .001\)) and gender (\(M_{\text{female}} = 1.22, SD = .46; M_{\text{male}} = 1.54, SD = .83\)) were significant predictors (\(\beta = .20, p < .001\)) at the first step. In the second step, need for recognition (\(\beta = -.07, p = .46\)), Machiavellianism, (\(\beta\)
psychopathy ($\beta = .10, p = .019$), overt aggression ($\beta = .18, p < .001$), and relational aggression ($\beta = .27, p < .001$) predicted trolling. In the last step, two interactions terms were significant in predicting trolling. The interaction of Machiavellianism and relational aggression were found to be predictive of trolling ($\beta = .13, p = .009$), indicating the moderating effect of relational aggression. Specifically, those individuals with high levels of Machiavellianism and high levels of relational aggression reported the highest level of trolling (see Figure 3). Another significant interaction in predicting trolling was between psychopathy and relational aggression ($\beta = .14, p = .031$) as in cyberbullying. Specifically, those individuals with high levels of psychopathy and high levels of relational aggression reported the highest level of trolling (see Figure 4). The results demonstrated that at the first stage, social desirability and gender contributed significantly to the model, $[F (2, 763) = 33.61, p < .001]$ and accounted for 8% of the variation in trolling. Introducing self-esteem, need for recognition, dark triad characteristics, overt aggression, and relational aggression explained an additional 21% of the variation in trolling $[F (7, 756) = 32.68, p < .001]$. In the last step, adding interaction terms to the model explained an additional 2% of the variance and this increase was significant $[F (8, 748) = 2.83, p = .004]$. In total, 31% of the variance in trolling was explained by this model.

Overall, the fourth hypothesis stating that trolling and cyberbullying will be positively associated with aggression was supported since both overt and relational aggression were significant predictors of trolling ad cyberbullying. Furthermore, the fifth hypothesis stating that the association between trolling/cyberbullying and other constructs will be moderated by both overt and relational aggression was partially supported. Only relational aggression, but not overt aggression, moderated the associations between trolling/cyberbullying and some dark personality traits/need for recognition.
2.5.3 Study 1 Discussion

This study was conducted to differentiate trolls from cyberbullies and to broaden the limited trolling literature by building on previous work. For these aims, qualitative interviews and a cross-sectional study were conducted. Depending on the themes on the qualitative interviews, it was observed that when the number of participants talked about reasons for trolling, they stressed the humorous and sarcastic commenting. Therefore, since there is no scale measuring these components of trolling, a new subfactor measuring these additional behavioral domains of trolling was developed. In addition to this, Troll Deviancy Scale was adapted to the Turkish language with some minor modifications in wording.

To the best of our knowledge, only one previous study examined the differences between trolling and cyberbullying (Zezulka & Seigfried-Spellar, 2016) based on self-esteem, Five-Factor Model, and moral decision making. In addition to self-esteem, the present study employed dark traits, and need for recognition differentiate trolls and cyberbullies. The present study is first to employ these constructs to examine differences between trolls and cyberbullies. Therefore, more research is needed for more generalizable findings.

Overall, interviews conducted with self-confessed trolls suggest that individuals perform trolling for fun. Based on reports of the participants at the qualitative interviews, participants defined trolling as disruption of discussions, deception of the victims, and posting of provocative comments. These components are in line with the previous literature using qualitative interviews to provide a common trolling definition (e.g., Bishop, 2014; Hardaker, 2010). It can be seen that trolls are aware of the meaning of trolling. Consistent with the existing literature, the behavioral examples of trolling given by participants were various. However, there is one example which was not mentioned previously. According to some participants who stressed the mocking in their definitions, implying exactly the opposite of the ideas and thoughts they had in mind are also examples of trolling. This situation is consistent with the claim of a previous qualitative study stating that trolling can be considered as an umbrella term.
for particular types of instrumental online behaviors (Cook et al., 2018). The actions that constitute trolling may vary depending on the age of the participants. The interviews in the current study were conducted with university students and they may emphasize the mocking while trolling others. However, previous research using qualitative interviews were performed with more diverse age groups (Cook et al., 2018; March & Marrington, 2019). Further research that better captures trolling experiences of different age groups are needed.

Although the majority of the participants stated that trolling and cyberbullying were different, only a few of them acknowledged the actual differences. There were many responses that defined trolling as a kind of cyberbullying. According to the majority of the participants, cyberbullying is more harmful than trolling for the victims. These responses are pretty similar to the responses obtained in the study conducted by March and Marrington (2019).

Most participants indicated that they were trolled before and this was an enjoyable experience. This result is not consistent with the previous literature indicating that being trolled is an aversive experience. The reason for this result can be associated with the perspective of the participants. Since they are self-confessed trolls, they may not consider trolling as a form of online harassment. Examining their motivation while performing trolling can further our understanding of this issue. Since a few previous researches were conducted with self-confessed trolls or examined trolling posts directly (e.g., Cook et al., 2018; Herring et al., 2002), more research investigating motivations behind trolling with self-confessed trolls can provide a richer understanding.

The trolling frequency was also diverse among participants. While some participants engage in trolling every day, some of them rarely engage in. Those who engage in trolling occasionally stated that they troll others when the situation is suitable to perform trolling. As remembered, trolls need only a comment section to troll others (Klempka & Stimson, 2014). In line with this claim, participants mentioned a variety of online platforms they had performed trolling. Among them, only WhatsApp was
not mentioned in previous studies. Like other online platforms, WhatsApp enables its users to post a variety of verbal and visual materials to their friends. Therefore, it is a convenient platform to perform trolling. Future research can include WhatsApp along with other online platforms when examining trolling.

A variety of trolling motivations were emerged from the interviews. In particular, personal enjoyment and boredom were mentioned most frequently, as presented by the previous research (e.g., Buckels et al., 2014; Thacker & Griffiths, 2012). In addition to these, some new motivations were uncovered, such as mutual enjoyment with others and also ego satisfaction through others’ shortcomings. Although not generalizable to all trolls due to the small sample size, they are still important motivations for trolling.

Previous research, on the other hand, revealed that trolls only consider their own enjoyment while performing trolling (e.g., Bishop, 2014; Buckels, Trapnell, & Paulhus, 2014; Donath, 1999). In future studies, whether these motivations are generalizable to larger samples can be investigated.

As revealed in the study of Cook and colleagues (2018), these findings regarding trolling motivations suggest that trolling may not be an aimless action, but it may have some instrumentality for the offenders. However, previous research claimed that trolls have no instrumental purpose (Buckels et al., 2014). Obtaining information from the trolls’ own perspectives may create this difference since the current study and Cook’s and colleagues’ study were conducted with self-confessed trolls. Moreover, it can be argued that trolling the forums in a persistent manner in which sensitive topics are discussed can also be regarded as an example of instrumental trolling. In this case, trolls may act in line with a political orientation. Therefore, in future studies, examining motivations behind trolling can better capture the explicit purpose(s) for trolling.

Furthermore, consistent with the literature, the majority of the participants indicated that they choose the victims randomly. Those who emphasized mutual enjoyment as a trolling motivation stated that they select close friends since they know how they react to them. These trolls also mentioned that they do not want to hurt others as a result of
trolling. This finding is also inconsistent with the previous literature stating that trolls only perform trolling for their own enjoyment (Buckels et al., 2014).

The question about offline trolling behavior revealed that more than half of the participants also engage in trolling in their daily life. However, they indicated that they choose only their close friends since they want to troll people who can deal with this. This result is in line with the reports of the participants in a previous qualitative study (Sanfilippo et al., 2017). This situation is closely associated with the borders of the Internet. In online platforms, victims cannot reach the offenders physically after being harassed.

With regard to the feelings after trolling, most participants felt amused which is consistent with their motivation of enjoyment. Moreover, the feelings of accomplishments and competence were mentioned by some of the participants. Competence need is critical to note since the competence is one of the psychological needs which should be satisfied for well-being in SDT. Uncovering the competence need in the interviews helped determining the aim of the Study 2 and was tested with a larger sample.

The majority of the participants indicated that they do not give importance to whether the victims take the bait or not. This result contradicts with the claim that success is one of the components of trolling (Hardaker, 2010, 2013). According to this view, if trolls obtain a sincere response from the victims, they assume that they are successful in trolling. Some participants in the current study stated that if they follow the reactions after trolling, they probably want to respond, and this creates a debate between themselves and the victim. However, they do not want these kinds of arguments because most of them have a motivation for enjoyment while performing trolling.

Finally, the question regarding the situations causing trolling revealed that there were variety of situations for trolling. Some participants stated that seeing troll posts by others is a situation giving rise to trolling for themselves. This result is consistent with the finding of a past research which found the same result with an experimental design (Cheng et al., 2017). As novel situations, some participants stated that people asking
nonsense questions that can be learnt quickly from Google and people believing ideas in the nonsensical posts and defend these posts fanatically cause them to troll these people. These two situations were examined further to understand whether they will cause trolling in diverse samples. To achieve this goal, new items were developed and added to the trolling scale of Zezulka and Seigfried-Spellar (2016) to analyze whether these situations are common in other trolls. Overall, the interviews facilitated the collection of rich qualitative data, including accounts of examples of trolling, motivations for trolling, situations giving rise to trolling, and differences between trolling and cyberbullying. Moreover, all this information was obtained by examining the perspective of self-confessed trolls. This type of information is rare as compared to the information collected from victims or bystanders of trolling in the past research (e.g., Maltby et al., 2015; Shachaf & Hara, 2010). Last, the perception of trolling among participants is positive than the common view of scholars and depictions in media, as consistent with the study of Sanfilippo and colleagues (2017). Since they are self-confessed trolls, it is likely that they may underestimate the negative effects of trolling on the victims.

After finishing the interviews, Study 1 aimed to differentiate trolling from cyberbullying and understand whether trolling is a different construct from cyberbullying. Results showed that some of the hypotheses were supported. Mainly, MANOVA results revealed that there are slight differences between trolls and cyberbullies. On the other hand, there are many more differences between cyberbullies and individuals who have never engaged in cyberbullying and trolling as compared to cyberbullies and trolls. In other words, cyberbullies were distinguished from the individuals who have never engaged in trolling and cyberbullying better. Moreover, predictors of cyberbullying and trolling were explored and hierarchical regression analyses revealed that relational aggression, but not overt aggression, moderated the associations between trolling/cyberbullying and some of the dark personality traits/need for recognition. A more detailed discussion regarding the findings of Study 1 is found in the general discussion section.
Table 5. Summary of Hierarchical Regression Analyses for the Variables Predicting Cyberbullying and Trolling.

<table>
<thead>
<tr>
<th></th>
<th>Model 1 predicting cyberbullying</th>
<th>Model 2 predicting trolling</th>
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<tbody>
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</table>

Note. *p < .05. **p < .01. ***p < .001. Scales ranged from 1 (strongly disagree) to 7 (strongly agree). Trolling scale ranged from 1 (never) to 7 (more than 6).
Cyberbullying scale ranged from 1 (never) to 4 (more than 3). RA: Relational Aggression, OA: Overt Aggression.

Figure 1. Interaction of Psychopathy and Relational Aggression Predicting Cyberbullying.

Figure 2. Interaction of Need for Recognition and Relational Aggression Predicting Cyberbullying.
Figure 3. Interaction of Machiavellianism and Relational Aggression Predicting Trolling.

Figure 4. Interaction of Psychopathy and Relational Aggression Predicting Trolling.
CHAPTER 3

STUDY 2: EXAMINING TROLLING FROM SELF-DETERMINATION THEORY PERSPECTIVE

The purpose of Study 2 is to investigate the trolling behaviors from a self-determination theory perspective by using propositions of basic need satisfaction and life goals. Since SDT is a macro theory of human motivation, it will be useful to adopt this theory in explaining trolling behaviors. Although previous research claims that trolls have no instrumental purpose (e.g., Buckels at al., 2014), some forms of trolling events may be performed for an apparent goal. Sarcastic trolling, emerged in Study 1, includes new types of trolling behaviors. Therefore, it may be performed for a specific aim. To examine the predictive power of basic psychological needs and life goals on the sarcastic trolling and behavioral trolling, separate regression analyses were performed. Moreover, the role of gender in trolling was also examined and Process Macro was utilized to test the moderating role of gender in Study 2.

3.1 Participants and Procedure

A total of 910 students from local universities in Turkey participated in the current study in exchange for extra course credits. After deleting incomplete responses, 695 participants (532 female, 163 male) were left for the analyses. Participants’ age ranged from 18 to 45 ($M = 20.95, SD = 2.57$). The majority of the participants were WhatsApp users (89%). After WhatsApp, Instagram (76%), YouTube (46%), and Twitter (38%) were the most preferred websites. In addition to these websites, Reddit, Facebook Messenger, dating sites, forums, and blogs were the other websites that less
participants use. Participants indicated their daily Internet use on average 3.86 hours ($SD = 2.16$).

An online survey package was provided to participants via Qualtrics including demographic questions (age, gender, education, department) and actively used online platforms were also indicated by the participants. Unlike Study 1, duration of daily Internet use was also asked this time. After these questions, the following questionnaires were administered:

### 3.2 Measures

#### 3.2.1 Global Assessment of Facebook Trolling

Trolling was measured with the same scales used in Study 1. Cronbach’s $\alpha$ was .50 for Global Assessment of Facebook Trolling (GAFT; Craker & March, 2016). Due to the low-reliability level, this scale was not used in the analyses as in Study 1.

#### 3.2.2 Cyberbully/Troll Deviancy Scale

Cyberbully/Troll Deviancy Scale (CTDS; Zezulka & Seigfried-Spellar, 2016) and sarcastic trolling subscale were used as behavioral measures of trolling. Cronbach’s alpha was .91 for sarcastic trolling, and .85 for the Cyberbully/Troll Deviancy Scale. However, unlike Study 1, sarcastic trolling and Troll Deviancy Scale were used separately on the analyses by computing their means separately.

#### 3.2.3 General Need Satisfaction Scale

General need satisfaction was measured with 21-item General Need Satisfaction Scale (Deci & Ryan, 2000; Gagne, 2003). The satisfaction of autonomy, competence, and relatedness needs are measured in the general domain of everyday life. Autonomy subscale contains 7 items, competence subscale contains 6 items, and the relatedness
subscale includes 8 items. Nine items are reverse coded, 3 for each subscale. Each subscale can be scored separately or a composite score can be obtained by combining all subscales. In the current study, subscales were scored separately. Example items from the scale: “I feel like I can pretty much be myself in my daily situations” (autonomy), “I have been able to learn interesting new skills recently” (competence), and “People are generally pretty friendly towards me” (relatedness). Responses are rated on a scale of 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate higher need satisfaction. Cronbach’s $\alpha$ was .75 for autonomy, .67 for competence, and .72 for relatedness.

3.2.4 Life Goals

Life goals were measured with Life Goals Scale (Ilhan, 2009), which was developed in Turkish. It has 47 items and 9 categories of goals. These goals include the intrinsic goals of relationships, personal growth, community contribution, meaningful life, physical health, and family contribution; and extrinsic goals of financial success, fame/recognition, and image/attractiveness. Responses are rated on a scale of 1 (strongly disagree) to 7 (strongly agree). Aspirations Index was not used in the current research since Ilhan (2009) developed the Life Goals Scale depending on the self-determination theory. Although there are slight differences, the two scales were similar in fundamental aspects. There are some slight changes in the Life Goals Scale. Only a new category emerged and called family contribution and the physical health category was included under the intrinsic aspirations in Life Goals Scale. Moreover, the strength and importance of the aspirations are not measured as in the Aspirations Index. Since its reliability and validity were proven in Turkish university students, Life Goals scale was preferred in the current study. Only the following subscales of the scale were used and all of them had satisfactory reliability levels; personal growth ($\alpha = .81$), community contribution ($\alpha = .88$), and fame ($\alpha = .75$).
3.3 Results

Analyses were performed using SPSS 25. Correlations between variables and descriptive statistics can be seen in Table 6. Immediately apparent from these correlations are the large positive correlation between trolling behaviors and sarcastic trolling, negative correlations between trolling measures and basic needs which are autonomy and relatedness, and negative correlations between trolling behaviors and life goals. Moreover, strong positive correlations between basic needs are also in the expected direction. Surprisingly, while daily Internet use duration was positively correlated with sarcastic trolling, it did not correlate with trolling behaviors. Most frequently used online platforms were WhatsApp (87.2%), Instagram (74.3%), YouTube (42.8%), Twitter (32.3), and Facebook (23.4%) among the participants. Overall, 392 participants (56%) reported that they engaged in at least one trolling behavior during the last six months. There were significant gender differences in both sarcastic trolling and trolling behaviors between males and females. Males ($M = 1.99, SD = 1.42$) compared with females ($M = 1.40, SD = .75$) performed more sarcastic trolling behaviors, $t (693) = -6.88, p < .001$. The same situation was observed in the Troll Deviancy Scale. Males ($M = 1.22, SD = .56$) performed more trolling behaviors than females ($M = 1.07, SD = 1.22$), $t (693) = -5.11, p < .001$.

3.3.1 Hypothesis Testing

To test the predictors of trolling depending on self-determination theory and the moderating role of gender in the link between basic needs and trolling, model 1 of Process macro (Hayes, 2017) was performed separately for sarcastic trolling and behavioral trolling. Tables 7 and 8 present the results of the regression analyses for sarcastic and behavioral trolling. First, the predictors of sarcastic trolling were examined. To see whether there is a significant interaction between gender and basic needs in predicting trolling, a series of hierarchical regression analyses were performed first. The duration of daily Internet use was entered in the first step. Basic needs and
life goals were entered in the second step and all two-way interaction terms were entered in the last step. The analysis showed that when basic needs and life goals were included in the model together with the interaction terms, only relatedness x gender interaction was significant among the other interaction terms (autonomy x gender and competence x gender). There was no significant interaction effect between gender and life goals. To probe the significant interaction, Process moderation analysis was performed. Moderation analysis was interpreted with simple slope analysis, using mean, -1SD, and +1SD (i.e., Pick-a-Point approach). Duration of daily Internet use, autonomy, competence, relatedness, fame, community contribution, and personal growth were entered as covariates in the analysis.

Autonomy, competence, and relatedness did not predict sarcastic trolling significantly (see Table 7 for regression coefficients). In terms of life goals, community contribution ($B = -.11, SE = .04, p < .05, 95\% CI = [-.19 to -.03]$) and personal growth ($B = .15, SE = .06, p < .05, 95\% CI = [.02-.27]$) were significant predictors of sarcastic trolling. Regarding the main goal of this study, results evidence a significant interaction effect of gender in the relationship between relatedness need and sarcastic trolling ($B = -.31, SE = .10, p < .01, 95\% CI = [-.50 to -.12]$). Specifically, simple slope analysis showed that the association between relatedness need satisfaction and sarcastic trolling is significant and negative for males whereas this association is not significant for females (see Figure 5). The results revealed that duration, gender, autonomy, competence, relatedness, community, personal growth, and fame contributed significantly to the model, $[F (9, 628) = 9.49, p < .001]$ and accounted for 12% ($R^2 = .12$) of the variation in sarcastic trolling. The interaction of gender and relatedness explained an additional 1% of the variation in sarcastic trolling [$F (1, 628) = 9.96, p < .01$] and this increase is significant. In total, 12% of the variance in sarcastic trolling was explained by this model.
Table 6. Correlations between Study Variables

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<th>Variables</th>
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<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
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<td>.61**</td>
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<td>.31**</td>
<td>.55**</td>
<td>-</td>
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<td></td>
<td></td>
</tr>
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<td>.18**</td>
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<td>.34**</td>
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Note. *p < .05 **p < .01
Second, trolling behaviors from the Troll Deviancy Scale (Zezulka & Seigfried-Spellar, 2016) were predicted by the same variables used to predict sarcastic trolling. As in the sarcastic trolling, gender was used as the moderator in the association between basic needs and behavioral trolling. Analysis showed that gender was significant in predicting behavioral trolling ($B = .12, SE = .03, p < .001, 95\% CI = [.06 to -.18]$). Among the basic needs, only autonomy ($B = -.04, SE = .02, p < .05, 95\% CI = [-.08 to -.01]$) predicted behavioral trolling negatively. Among the life goals, personal growth ($B = -.06, SE = .02, p < .05, 95\% CI = [-.10 to -.01]$) and community contribution ($B = -.03, SE = .01, p < .05, 95\% CI = [-.06 to -.01]$) predicted behavioral trolling negatively. Fame was marginally significant in predicting behavioral trolling ($B = .02, SE = .01, p = .056, 95\% CI = [-.01 to .04]$). More specifically, the results showed that individuals who give less importance to personal growth and community contribution as life goals are more likely to engage in behavioral trolling. Furthermore, those individuals who are low in autonomy need satisfaction are also more likely to perform behavioral trolling. The results demonstrated that duration of daily Internet use, gender, basic needs, and life goals contributed significantly to the model, $[F (9, 628) = 12.68, p < .001]$ and accounted for 10\% ($R^2 = .10$) of the variation in trolling. Interaction between gender and relatedness was marginally significant and did not explain any significant variance in behavioral trolling.

3.3.2 Study 2 Discussion

The current study aimed to examine trolling behaviors from the self-determination theory perspective and the moderating role of gender. Basic psychological needs and life goals were used to understand underlying motivations behind trolling behaviors. Trolling was examined in two aspects; one is sarcastic trolling which was developed as a subfactor of the Troll Deviancy Scale in the course of the present study, the other is Troll Deviancy Scale. As findings showed, the predictive power of basic needs and life goals on these two aspects are not the same. Findings implied that the predictive power of self-determination theory on trolling was not strong as expected. Including
other possible moderators in the model instead of gender may increase the explained variance in trolling. For instance, whether negative affect moderates the link between behavioral trolling and basic needs can be examined in future research. It is possible that individuals who are low in relatedness need satisfaction and high in negative affect perform behavioral trolling most frequently. Employing this approach may contribute to a more detailed understanding of the characteristics of trolls performing malicious acts. The findings and implications of the Study 2 are further discussed in the general discussion section.

Table 7. PROCESS Analysis for Gender Moderating the Association between Sarcastic Trolling and Relatedness Need.

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
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Note. *p < .05, **p < .01, ***p < .001. Interaction = Gender x Relatedness. Scales ranged from 1 (strongly disagree) to 7 (strongly agree). Trolling scale ranged from 1 (never) to 7 (more than 6). Analyses conducted using PROCESS Model 1, N = 638. Gender was dummy coded (1 = Female, 2 = Male).
Table 8. PROCESS Analysis for Gender Moderating the Association between Behavioral Trolling and Relatedness Need.

<table>
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<tr>
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<th>t</th>
<th>95% CI</th>
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<td>.03</td>
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<td>[.06, .18]</td>
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<td>.02</td>
<td>-1.99*</td>
<td>[-.08, -.01]</td>
</tr>
<tr>
<td>Competence</td>
<td>.02</td>
<td>.02</td>
<td>.90</td>
<td>[-.02,.05]</td>
</tr>
<tr>
<td>Community</td>
<td>-.03</td>
<td>.02</td>
<td>-2.35*</td>
<td>[-.06, -.01]</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>-.06</td>
<td>.02</td>
<td>-2.45*</td>
<td>[-.10, -.01]</td>
</tr>
<tr>
<td>Fame</td>
<td>.02</td>
<td>.01</td>
<td>1.91</td>
<td>[-.01,.04]</td>
</tr>
<tr>
<td>Duration</td>
<td>-.01</td>
<td>.01</td>
<td>1.58</td>
<td>[-.01,.02]</td>
</tr>
<tr>
<td>Interaction</td>
<td>-.07</td>
<td>.04</td>
<td>-1.95</td>
<td>[-.14,.01]</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, ***p < .001. Interaction = Gender x Relatedness. Scales ranged from 1 (strongly disagree) to 7 (strongly agree). Trolling scale ranged from 1 (never) to 7 (more than 6). Analyses conducted using PROCESS Model 1, N = 638. Gender was dummy coded (1 = Female, 2 = Male).

Figure 5. Interaction of Gender and Relatedness Predicting Sarcastic Trolling.
CHAPTER 4

GENERAL DISCUSSION

4.1 Overview of the Findings

Along with the rise of the Internet use in the last years, some new forms of harassment become widespread; cyberbullying and trolling. The purpose of the present research is twofold. First is to examine the differences between trolling and cyberbullying in order to show whether trolling is a different construct from cyberbullying. Second is to examine trolling from a self-determination theory perspective to investigate motivations behind trolling. Across one qualitative study, two correlational studies and two measures, the present research explored the predictors of these online antisocial behaviors. The findings of Study 1 implied that there are slight differences between trolls and cyberbullies. Study 2 showed that sarcastic trolling and behavioral trolling are different in some aspects.

When self-reported trolling and cyberbullying rates were examined, it was seen that the rate of trolls (22.6%) and cyberbullies (11.2%) were lower than past studies (e.g., Patchin & Hinduja, 2010; Zezulka & Seigfried-Speallar, 2016) in Study 1. However, the rate of trolls was higher in Study 2 than Study 1. Overall, 392 participants (56%) reported that they engaged in at least one trolling behavior during the last six months. However, there are some items measuring similar behaviors in trolling and cyberbullying scales and cyberbullying scale was not used in Study 2. Therefore, high rate of trolling observed in Study 2 can be associated with the scales employed. That is, some respondents who otherwise can be classified as cyberbullies may be grouped under trolling. Moreover, unlike cyberbullying, there exist a few studies reporting the
rate of trolls which may be because of the inherent differences in the scales used to measure trolling. In Study 1 and 2, trolling was measured with sarcastic trolling and Troll Deviancy Scale (Zezulka & Seigfried-Speallar, 2016) which assess how frequently an individual has performed a specific trolling behavior in the last six months. The majority of the past studies, on the other hand, used only GAIT or GAFT (Craker & March, 2016), in which the degree of agreement with the items about trolling were measured. Moreover, most of the items seem to measure attitudes toward trolling, such as “The more beautiful and pure a thing is, the more satisfying it is to corrupt”, “I say what I like, and if people can’t handle it it’s just because they can’t handle the truth” in the scale. Hence, it is not possible to obtain the frequency of specific trolling behaviors with the GAIT or GAFT. If the rate of trolls is of interest, it is better to use sarcastic trolling and Troll Deviancy Scale.

4.2 Psychometric Properties of Sarcastic Trolling and Behavioral Trolling

To measure trolling behaviors in a Turkish sample, one of the existing scales of trolling was adapted in Study 1. In addition, a new subfactor containing 8 items was developed depending on the interviews which showed that there are additional trolling behaviors not covered by existing scales. The emergence of this factor was consistent with the findings of previous research (Sanfilippo et al., 2018) identifying different types of trolling via semi-structured interviews. In these interviews, humorous trolling was emerged as one type of trolling and performed for personal or social enjoyment. The sarcastic trolling subscale also covers humorous trolling.

Findings showed that sarcastic trolling is a reliable and valid scale. The correlation between sarcastic trolling and Troll Deviancy scale provided evidence for the convergent validity which is a sub-type of construct validity. Furthermore, results suggest that the Troll Deviancy Scale is suitable to use in Turkish university students. When they used together, these two scales are comprehensive enough to detect a variety of trolling behaviors.
4.3 Differences between Cyberbullies and Trolls

Although cyberbullies and trolls were not differentiated as expected, cyberbullies and the individuals who have never engaged in cyberbullying and trolling were differentiated more clearly. Results showed that cyberbullies and trolls were not different in terms of psychopathy but cyberbullies had significantly higher psychopathy levels than the individuals never engaging in trolling and cyberbullying. This result suggests that psychopathy is an aversive trait which distinguishes only cyberbullies and the individuals never engaged in trolling and cyberbullying. Considering the main characteristics of psychopathy, the findings imply that cyberbullies have lower level of empathy and higher level of impulsiveness. Although there was no other significant difference between the groups in terms of psychopathy, means were in the expected direction: Cyberbullies had the highest score and trolls ranked second in psychopathy.

Similar to psychopathy, cyberbullies had significantly higher scores in Machiavellianism than individuals who have never engaged in trolling and cyberbullying. Considering the main characteristics of Machiavellianism, such as lying, cheating, deceiving others for the sake one’s own benefits (Jakobwitz & Egan, 2006; Jones & Paulhus, 2014), this difference is in the expected direction. However, it could have also been possible to obtain a difference between cyberbullies and trolls since deception was considered as one of the characteristics of trolling in previous qualitative research (Hardaker, 2010, 2013). It can be argued that as cyberbullies damage their victims more seriously, it is likely that they use deception more seriously than trolls. However, the findings of the present research did not support this claim. Future research should examine this issue further.

The last dark trait which were examined in the current research was narcissism and there was no significant difference between the groups in terms of narcissism. These findings suggest that trolling and cyberbullying are not different from each other in terms of dark personality traits. Results also showed that trolls and the individuals who have never engaged in cyberbullying and trolling are also not different in terms of dark
traits. Overall, to the best of our knowledge, since there is no past study examining these differences between cyberbullies and trolls, these results need to be interpreted with a certain degree of caution and a replication is needed.

Following the earlier work of Zezulka and Seigfried-Spellar (2016), whether self-esteem levels of the groups (cyberbullies, trolls, and the individuals never engaged in neither of them) are different or not was examined. It was proposed that self-esteem levels of cyberbullies and trolls will be lower than the individuals who never engaged in neither of these behaviors. This hypothesis was not supported. Unlike the study of Zezulka and Seigfried-Spellar (2016), the results of the present study demonstrated that all groups were the same in terms of self-esteem. This result also is not compatible with some of the past research showing that cyberbullies have lower levels of self-esteem than those who have little or no experience of cyberbullying (e.g., Brewer & Kerslake, 2015; Patchin & Hinduja, 2010). However, Brack and Caltabiano (2014) found the same result with the present study and concluded that cyberbullying behavior needs to be investigated across all age groups because adolescence is a period in which lower stability in self-esteem is observed due to environmental and/or maturational changes (Trzesniewski et al., 2003). However, it is a common practice to study the role of self-esteem in cyberbullying in adolescents (middle and high school students) (e.g., Brewer & Kerslake, 2015; Cenat et al., 2014; Palermiti et al., 2017; Patchin & Hinduja, 2010). In present research, the mean age of the respondents was approximately 21 so it can be considered as an adult sample. However, the mean age of participants in the study of Zezulka and Seigfried-Spellar (2016) was 35. The difference between the present research and Zezulka and Seigfried-Spellar (2016) research may be associated with the groups which were compared. In the current research, trolls, cyberbullies, and the individuals who have never engaged in trolling and cyberbullying were compared. In the study of Zezulka and Seigfried-Spellar (2016), on the other hand, trolls, cyberbullies, individuals performing two of them, and individuals performing neither of them were compared. More research should be conducted to understand whether self-esteem levels of the cyberbully and trolling offenders differ in adolescents and adults.
As Brack and Caltabiano (2014) suggested, the relationship between cyberbullying and self-esteem needs to be examined in all stages of adulthood to see its consistency across different ages. To achieve this goal, longitudinal studies can be designed starting from adolescence. If low self-esteem is a cyberbullying risk only for adolescents, interventions targeting only this age group can be developed instead of targeting the adult population. In this way, more effective results can be obtained. Although there is only one previous study (Zezulka & Seigfried-Spellar, 2016) comparing the self-esteem levels of trolls with other groups, similar longitudinal studies can also be designed to clarify whether the association between trolling and self-esteem differs across the age. Even though the results of the present study are not directly comparable to Zezulka and Seigfried-Speallar (2016) because of the differences in some of the measures and a somewhat different analytical strategy, findings of the present research lend support to the relevance of examining differences between cyberbullying and trolling in terms of self-esteem.

The third hypothesis stating that trolls will have higher levels of need for recognition than cyberbullies was not supported. Contrary to the expectation, the reverse of the hypothesis was observed: need for recognition differed significantly, such that cyberbullies reported significantly higher need for recognition scores than trolls. Furthermore, individuals who have never engaged in trolling and cyberbullying scored the lowest in need for recognition even though the mean difference is not significant. As remembered, qualitative studies reported that attention-seeking is one of the main characteristics of trolling (Gammon, 2014; Hardaker, 2010). Moreover, trolls embrace the negative reaction they obtained (Cracker & March, 2016). Based on these findings, it is reasonable to expect that trolls have higher levels of need for recognition than cyberbullies. However, the existing results of the present study suggested that in actuality, cyberbullies, but not trolls, desire to obtain a reaction from the victims. Since there is no past study examining the direct link between need for recognition and cyberbullying, this result should be interpreted with caution.

Previous research suggested an indirect association between cyberbullying and need for recognition. For instance, Barlett and Kowalewski (2019) showed that anonymity
predicted attitudes toward cyberbullying, which in turn predicted subsequent anonymity in a longitudinal study. Moreover, several past research suggested that anonymity is one of the defining characteristics distinguishing cyberbullying from traditional bullying (Barlett, Gentile, & Chew, 2016; Slonje & Smith, 2008; Vandebosch & Cleemput, 2008). All these claims suggest that it is likely that cyberbullies may not want to be recognized due to the severity of their actions on their victims and identification risks. However, it can be argued that although they disguise themselves from the victims, cyberbullies may wish to get the attention indirectly. It is possible that after performing cyberbullying anonymously, they may watch how the victims handle the situation. Cyberbullies may consider any action which the victims do after being bullied as a form of attention for themselves. In other words, they might want to disturb their victims and see the worry of the victims even though the victim does not know them. Similar to dark traits, there is need for further research to clarify the issue.

Although it is not hypothesized directly, exploratory analyses showed that social desirability differed between cyberbullies and the individuals who have never engaged in trolling and cyberbullying. Results showed that individuals who have never engaged in trolling and cyberbullying had significantly higher scores than cyberbullies in social desirability. Although the questionnaires were completed anonymously, the possible impact of social desirability cannot be underestimated. In such a way that respondents might be reluctant to report socially undesirable acts such as cyberbullying or trolling due to the risk of being responsible for their actions (Menesini & Nocentini, 2009). This concern is observed in previous research as well (e.g., Ang & Goh, 2010; Bauman & Newman, 2013). However, the finding of the current study implied that cyberbullies did not give socially desirable responses to disguise themselves, need to exhibit a favorable image to others, and avoid embarrassment as compared to individuals who have never engaged in trolling and cyberbullying. Perhaps cyberbullies do not think that their actions are wrong and risky for themselves thanks to the anonymity of the Internet. What’s more, it is also likely that cyberbullies may have some justifications...
regarding their harmful actions. For example, they may think that the victim deserves their actions as a punishment.

On the whole, analyses of Study 1 revealed that there exist some slight differences between trolls and cyberbullies. Mainly, cyberbullies and individuals who have never engaged in trolling and cyberbullying were differentiated more clearly as compared to trolls and cyberbullies. Furthermore, to the best of our knowledge, the current research is first to examine differences between trolls and cyberbullies in terms of dark personality traits and need for recognition. Since there is a dearth of published research examining the differences between cyberbullies and trolls, it is critical to investigate whether the results of the present study are generalizable. It should be noted individuals who perform only trolling and individuals who perform only cyberbullying were compared in the current research. However, one-third of the participants (32%) engaged in both trolling and cyberbullying. One can argue that trolling and cyberbullying go together. In other words, if an individual performs cyberbullying, s/he also performs trolling and vice versa. The significant correlation between trolling and cyberbullying \( (r = .52, p < .001) \) also supports this claim. Therefore, focusing on similarities between trolls and cyberbullies can also be another field to explore. What’s more, these findings suggested that intervention programs aiming to reduce cyberbullying can also be effective in reducing trolling.

### 4.4 Predictors of Cyberbullying

Predictors of cyberbullying and the moderating role of both overt and relational aggression in predicting cyberbullying were explored in Study 1. Self-esteem, dark triad, and overt aggression were the significant predictors of cyberbullying in the final model. The studies in the literature with regard to the association between self-esteem and cyberbullying commonly examined cyberbullying victimization and perpetration separately. However, research examining the link between cyberbullying victimization and self-esteem is more prevalent and generally demonstrated that victims report low self-esteem (e.g., Brewer & Kerslake, 2015; Cenat et al., 2014; Kowalski & Limber,
In the current study, it was demonstrated that self-esteem is a significant negative predictor of cyberbullying perpetration, corroborating the previous research that individuals lower on self-esteem are more likely to engage in cyberbullying (Brewer & Kerslake, 2015; Varghese & Pistole, 2017). Moreover, more recent research in which the mediational role of self-esteem on the link between narcissism and cyberbullying was tested revealed that self-esteem is a negative predictor of cyberbullying (Fan et al., 2019). The present research supports the previous findings. However, since there is less research with regard to the association between self-esteem and cyberbullying perpetration, additional research is needed in this issue. For example, whether cyberbullies want to raise their low self-esteem through cyberbullying can be tested. Additionally, it is possible for them to believe they enhance self-image after performing cyberbullying. All of these ideas can be addressed in future research by analyzing the underlying motivation behind cyberbullying.

All Dark Triad Traits, Machiavellianism, narcissism, and psychopathy, predicted cyberbullying positively. Previously, discrepant findings were reported in different studies. As in the current research, some past research reported that all dark traits predicted cyberbullying (e.g., Brown et al., Goodboy & Martin, 2015), whereas others showed that some dark traits predicted cyberbullying (e.g., Gibb & Devereux, 2014; Van Geel et al., 2017). However, a notable pattern was observed in past research. Psychopathy was a consistent predictor of cyberbullying. Since low levels of empathy, lack of concern for others, and lack of guilt after performing harmful acts are the defining characteristics of psychopathy (Furnham et al., 2013; Hall & Benning, 2006; Jones & Paulhus, 2011), this finding is not surprising and the data of the current study support and replicate the earlier findings.

In addition to psychopathy, Machiavellianism predicted cyberbullying positively as in past research (Kircaburun et al., 2018; Martin & Goodboy, 2015). It is possible that Machiavellian individuals may gain something as a result of cyberbullying. For example, hacking of some famous accounts is not uncommon in social media sites. These accounts have thousands of followers and thus, they have the potential to make
money by accepting advertisements and influence their followers in a number of ways. A cyberbullying offender who is high on Machiavellianism can hack this account and start to use as if the account belongs to her/him to obtain benefits of the account.

Last, narcissism predicted cyberbullying positively. Given the self-centered view of narcissists, this finding is surprising. However, the current study is consistent with some previous research with this finding (e.g., Ang et al., 2011; Goodboy & Martin, 2015). In general, narcissist individuals are reluctant to care about others’ reactions in the offline world so it is likely that they do not care about these reactions in the online platforms as well. Therefore, rather than making disruptive or aggressive comments, it is likely that they perform self-presentational behaviors in online environments (Paulhus, 2014). Accordingly, attention-seeking was also considered as the primary motivation behind the actions of narcissistic individuals (Campbell & Miller, 2011). However, as Goodboy and Martin (2015) argued, the motivation of narcissistic individuals behind cyberbullying can be the revenge to restore their damaged self. Not surprisingly, Jones and Paulhus (2010) showed that a predictable response to ego and self-image threats was narcissistic aggression. Accordingly, Ang, Tan, and Mansor (2011) showed in their study that normative beliefs about aggression mediated the link between narcissistic implicativeness and cyberbullying. The link between narcissism and aggression in online platforms was also examined and positive results were obtained in other research (e.g., Kim, Namkoong, Ku, & Kim, 2008). Therefore, data of the present investigation support these findings.

However, there are also inconsistent findings regarding the link between narcissism and cyberbullying and this may be associated with the measurement of narcissism in past studies. Recent prior research measured both overt and covert narcissism to examine the link between cyberbullying and narcissism. Results showed that covert narcissism was positively predictive of both cyberbullying perpetration and victimization while overt narcissism was not (Fan et al., 2019). Although a positive association between cyberbullying and narcissism was found in the present study, narcissism was not distinguished as overt and covert. Therefore, this finding should be interpreted in caution.
Jones and Paulhus (2010) investigated the distinctions between subclinical narcissists and psychopaths in terms of provocations triggering aggression and found that different mechanisms were observed. Subclinical psychopaths tend to display aggression when unprovoked, whereas subclinical narcissists tend to show aggression when exposed to ego-threat. Although they display aggression as a result of different reasons, a past research showed that psychopathy and narcissism (as well as Machiavellianism) have only one common Big-Five correlate, disagreeableness (Paulhus & Williams, 2002). It may be likely that, regardless of the reason, a high level of aggression, together with disagreeableness, may be prevalent in cyberbullies. Future research should investigate this assumption further. Moreover, measuring one type of narcissism seems like an important limitation both in the current study and in the previous research. The distinction between types of narcissism, covert and overt narcissism, also needs further attention in future studies examining cyberbullying.

As in the narcissism, distinguishing the type of aggression can better explain cyberbullying behavior. As remembered, the moderating role of both relational and overt aggression was examined in the present study. Analyses revealed that need for recognition positively predicted cyberbullying, but only if the individual has high levels of relational aggression. More specifically, if need for recognition is high, then individuals with higher levels of relational aggression are more likely to engage in cyberbullying. As remembered, acknowledgment seeking as a person worthy of attention (Imamoglu, 2001a) was the main characteristic of need for recognition. Need for recognition is also another-dependent construct and depends on an accepting audience in the environment. Consequently, when they fail to obtain recognition, it is possible that individuals with a high need for recognition tend to manifest this desire as relational aggression. If the audience does not recognize an individual who is high on need for recognition, it is likely that the individual feels aggression toward them. Then, the individual who is high on both need for recognition and relational aggression may think that other individuals deserve malicious acts and engage in cyberbullying.

Moreover, a past research showed that there is a positive link between forming meaningful relationships with others and prosocial aspect of fame (e.g., using fame for
the sake of close others), rather than self-promotional aspects of fame (e.g., recognition and status) (Greenwood, Long, & Cin, 2013). Therefore, it is likely that individuals who crave for a superficial form of recognition do not relate with others in a meaningful manner due to self-promotional focus. Relational aggression may come up afterward when others in social networks do not recognize these individuals craving for recognition. As findings of the present research demonstrated, this situation gives rise to incidents of cyberbullying by the individual who is high in need for recognition. Since the current study is the first to test this relationship, further research is needed. Moreover, although its reliability is sufficient, the validity of the Need for Recognition Scale may be questioned. As far as I am aware, it was used for the first time in the present study after its development.

Furthermore, relational aggression also moderated the association between psychopathy and cyberbullying. Similar to need for recognition, those individuals with high levels of relational aggression and high levels of psychopathy reported the highest level of cyberbullying. The fact that the only significant moderation was between psychopathy and relational aggression is consistent with the conclusion that psychopathy is a consistent predictor of cyberbullying among the other dark traits. Overall, in line with previous research (Tokunaga, 2010), findings of the present study suggested that cyberbullies know their victims in person because of the high level of relational aggression they reported.

The role of psychopathic personality traits in relational aggression was shown in past research consistently as well (e.g., Czar, Dahlen, Bullock, & Nicholson, 2011; Lau & Marsee, 2013; Penney & Moretti, 2007). One may argue that the moderating effect of relational aggression in the link between psychopathy and cyberbullying may be because of the high proportion of females in the sample (66.8% female) of the present study. Although some studies showed that women are higher than men in terms of relational aggression (e.g., Colins, Fanti, Salekin, & Andershed, 2017; Stickle, Marini, & Thomas, 2012), other research showed that this assumption is erroneous and at least male and female college students are equal in terms of reporting relational aggression (e.g., Czar et al., 2011) or there are small differences between them (Card, Stucky,
Sawalani, & Little, 2008). Aggression is a multi-faceted construct and when different forms of aggression are examined, the differences between males and females are large and reliable in terms of physical aggression, rather than indirect or relational aggression (Archer, 2004). As discussed before, online platforms are convenient to inflict more subtle forms of aggression (relational aggression) for cyberbullying offenders. The same situation is also valid for trolling as relational aggression also moderated the link between trolling and psychopathy. It can be claimed that the very nature of online platforms may remove the differences in the expression of relational aggression between males and females. Future research can use gender as a moderator to explore whether there exist differences between males and females in cyberbullying and trolling.

Although overt aggression predicted cyberbullying positively, it did not moderate any of these associations between cyberbullying and other constructs. If cyberbullies do not have the opportunity to display overt aggression, they are likely to prefer cyber environments to display their aggression relationally. Since it is not possible to implement overt aggression such as kicking or hitting in cyber environments, cyberbullies use other means to harm the victim, such as hacking the account, using fake accounts to spread rumors about the victim and so on. Moreover, online platforms are preferable for cyberbullies as they provide anonymity (Barlett & Kowalewski, 2019). When they have high levels of need for recognition or psychopathy, together with the relational aggression, the highest level of cyberbullying was observed. These findings implied that interventions aiming to prevent cyberbullying should target relational aggression more directly.

4.5 Predictors of Trolling

Similar to cyberbullying, predictors of trolling and moderating role of both overt and relational aggression in predicting trolling were explored in the present study. Need for recognition, Machiavellianism, psychopathy, and overt aggression were significant predictors of trolling in the final model. Contrary to expectations, need for recognition
predicted trolling negatively. That is to say, trolls are not attention-seekers and do not want to be recognized by others. However, previous research claimed that trolls are attention-seekers or attention-seeking motivate acts of trolls (Gammon, 2014; Hardaker, 2010; Shachaf & Hara, 2010). There may be several reasons for this difference between the current study and the previous studies. First, the data collection methods were pretty different. Previous research mainly used qualitative data obtained from forums or blogs. Furthermore, specific online platforms such as feminist forums or Wikipedia, to detect trolling were examined. In the present study, participants indicated a large number of online platforms where they perform trolling. Moreover, in the current research, the data collection method is pretty different than the previous studies. Furthermore, there can be differences between the conceptions of individuals who have been trolled and who have performed trolling. For example, conceptions of individuals who have been trolled and those not reported to have been trolled were examined in recent past research and found that attention conflict-seeking was one of the emerging factors about trolls (Maltby et al., 2016). Although other individuals see trolls as attention-seekers, findings of the present research showed that trolling was negatively predicted by need for recognition. However, as far as I am aware, the Need for Recognition Scale (Imamoglu, 2001b) was used for the first time in the present research after it was developed. Thus, the validity of the scale can be questioned. To overcome this difficulty, the fame subscale of Life Goals Scale was utilized in Study 2 to predict trolling. Moreover, different forms of trolling may be differently associated with need for recognition. For a deeper understanding, sarcastic trolling and behavioral trolling were analyzed separately in Study 2.

As in the cyberbullying, relational aggression but not overt aggression moderated some of the associations between dark personality traits and trolling. First, the association between Machiavellianism and trolling was moderated by relational aggression. Machiavellianism is commonly associated with the use of manipulative tactics to put benefits above, as already mentioned. While doing so, they behave deceptively, rather than impulsively (Jones & Paulhus, 2011). Thus, it is not surprising that Machiavellianism predicted trolling positively as in the previous research (e.g.,
Buckels et al., 2014). However, some previous research found no association between Machiavellianism and trolling (e.g., Craker & March, 2016; March et al., 2017). To explain the mixed findings, relational aggression was used as the moderator in the link between Machiavellianism and trolling and a significant moderation was observed.

Although speculative, it is possible that higher relational aggression would allow Machiavellian trolls to detect their victims for trolling. In such a way that they may be successful at identifying who is suitable for trolling and who takes the bait. Previous research showed that individuals with high levels of Machiavellianism choose their friends that might be manipulated easily (Austin, Farrelly, Black, & Moore, 2007; Jonason & Schmitt, 2012). They also use a range of manipulative tactics to make their victims feel embarrassed or guilty (Austin et al., 2007). Accordingly, Machiavellians may have a specific aim while performing trolling. For example, after trolling, a victim who takes the bait may be considered as foolish by other users witnessing the trolling and this situation may damage the reputation of the victim both in the online platform and in real life. This may be the ultimate goal of a Machiavellian troll who has high relational aggression toward the victim. Thus, it can be claimed that Machiavellian individuals engage in higher-order trolling when they have high relational aggression against their victims.

Last, relational aggression also moderated the link between trolling and psychopathy. Similar to cyberbullying, individuals with high levels of relational aggression and high levels of psychopathy reported the highest level of trolling. This finding implied that trolls also know their victims in person, unlike a past research suggested (Fichman & Sanfilippo, 2016). As remembered, previous research claimed that cyberbullies do know their victims personally (Tokunaga, 2010) but there is no finding of whether trolls know their victims personally or not. In the study of Zezulka and Seigfried-Spellar (2016), cyberbullying and trolling behaviors were distinguished by whether the perpetrators of cyberbullying and trolling know their victims or not. If the victim was known by the perpetrator, the act was considered as cyberbullying. However, findings of the present study implied that trolls who have high levels of Machiavellianism and psychopathy also know their victims in person as they
performed trolling most when their level of relational aggression was high. This finding is novel and requires more examination.

Moreover, the findings of the present research suggest that trolling and cyberbullying share some common aspects. Both of them were predicted by the moderation of psychopathy and relational aggression. However, whether an individual who is high on both psychopathy and relational aggression perform trolling or cyberbullying in a given situation may be associated with a third variable. Future studies can examine the role of online competence as the third variable in these associations. Performing cyberbullying seems to require more advanced skills than performing trolling. For instance, to hack an account or to learn passwords require advanced skills as compared to writing belittling or annoying comments. The former is an example of cyberbullying and the latter is trolling. These forms of online misbehaviors are also illegal and require legal actions so it can be claimed that being competent in these actions is extremely important for the cyberbullies. As already discussed, perceived Internet competence was found as associated with the online misconduct (Selwyn, 2008). For example, a skillful individual who is high on both psychopathy and relational aggression may prefer hacking the account of others whereas a less skilled individual who is high on the mentioned characteristics may prefer writing insulting and annoying comments. Examination of when an individual performs trolling or cyberbullying as a function of online competence can be another avenue for future research.

Last, although overt aggression predicted trolling and cyberbullying positively, it did not moderate any of the associations while predicting trolling as in the cyberbullying. Actually, this finding is not surprising as online platforms are suitable to inflict indirect form of aggression (e.g., relational aggression), rather than overt or physical form of aggression (e.g., Abell & Brewer, 2014; Abell, Buglass, & Betts, 2019; Ging & Norman, 2016). However, it should be noted that both forms of aggression, especially relational aggression, need further consideration to prevent cyberbullying and trolling.

On the whole, since a standard definition of trolling has been attempted to make in the past studies (e.g., Cook et al., 2018; Golf-Papez & Veer, 2017), it is likely that they
used different methods and measures to assess trolling behaviors. The ever-changing nature of trolling practices might hinder to reach a consensus in the definitions and measurements. This can be one of the reasons causing different results in different studies. Therefore, further research that better captures trolling behaviors are needed. To fill this gap, a new subfactor was developed, and a trolling scale was adapted to Turkish in Study 1. Furthermore, since slight differences was found between trolling and cyberbullying in the present study, more distinct constructs that can better differentiate between cyberbullying and trolling can be examined in future research. The ever-changing nature of online behaviors should also be considered in this process.

4.6 Investigating Trolling from Self-Determination Theory Perspective

Analyses performed to examine predictors of sarcastic trolling were exploratory due to its emergence after the qualitative interviews. Although sarcastic trolling was used together with the Troll Deviancy Scale by computing the overall mean in Study 1, separate regression analyses were performed for sarcastic trolling and Troll Deviancy Scale in Study 2 by calculating means separately. Findings implied that sarcastic trolling measures a different but related construct with Troll Deviancy Scale since the predictive power of self-determination theory on these two forms of trolling showed some differences in Study 2.

4.7 Predictive Power of Gender and Internet Use Duration on Trolling

First, in predicting both sarcastic trolling and behavioral trolling, gender was a significant predictor. More specifically, males are more likely to engage in trolling compared with females. A significant mean difference between males and females in terms of performing both forms of trolling behaviors were also observed. That is, males perform trolling more frequently than females. A similar pattern in gender was also observed in Study 1 in predicting cyberbullying and trolling. Past research also
demonstrated similar results (e.g., Craker & March, 2016; Li, 2006; March et al., 2017; Sharma, Kishore, Sharma, & Duggal, 2017).

In general, females do not perform online misbehavior as much as males (e.g., Craker & March, 2016; Li, 2006; March et al., 2017; Sharma et al., 2017). Moreover, need for affiliation (Chen, 2013), seeking interaction and forming meaningful friendships (Hassouneh & Brengman, 2014), using a gentle language and supporting others (Guiller & Durndell, 2007), having a positive tone in interactions (Thelwall, Wilkinson, & Uppal, 2010), and using text messaging more are some of the characteristics of the gendered pattern of communication when using online platforms (e.g., social media, MySpace, forums). That is, females are higher than males in these characteristics while communicating on the Internet. Therefore, it is meaningful to found that females do not perform trolling as frequently as men due to their concerns and practices regarding online relationships. The current research is in line with these findings and supported the claim that being a male predicts higher engagement in online misbehavior, which are sarcastic and behavioral trolling.

Another significant predictor was the amount of daily Internet use duration for sarcastic trolling, but not for behavioral trolling. Specifically, findings showed that as the daily amount of Internet use increases, the possibility of performing sarcastic trolling also increases. This finding is in line with a past research demonstrating that Internet use duration made a significant contribution in predicting cyberbullying (Aricak & Özbay, 2016). Although there is no study examining the direct link between trolling and daily Internet use duration, the association found in the study of Aricak and Özbay (2016) may be considered as an indirect evidence. It is likely that when individuals spent more on the Internet, they may write sarcastic comments to others’ posts due to the boredom. However, the amount of daily spent time on the Internet was measured depending on the perceptions of the respondents. The number of past researches investigating online activities also employed this method (e.g., Aricak & Özbay, 2016; Bhat, Pinto-Zipp, Upadhyay, & Polos, 2018; Jelenchick, Eickhoff, & Moreno, 2013; Manuoğlu & Uysal, 2019; Pang, 2018; Rousseau, Eggermont, & Frison, 2017; Sampasa-Kanyinga, Hamilton, Chaput, 2018). Therefore, it is likely that
participants underestimate or overestimate their daily use of the Internet. Future research should measure this variable via applications measuring Internet usage duration of mobile phones to obtain more realistic estimates.

4.8 Predictive Power of Basic Needs and Moderating Role of Gender on Sarcastic Trolling

In terms of basic needs, autonomy, competence, and relatedness were examined for their predictive utility of trolling behaviors. Although autonomy need predicted only behavioral trolling negatively as expected, competence and relatedness needs did not predict either sarcastic trolling or behavioral trolling. Results showed that individuals who are high on autonomy need satisfaction engage in behavioral trolling less frequently. As mentioned earlier, autonomous individuals embrace the values within the behaviors that they perform voluntarily (Deci & Ryan, 1985). Satisfaction of autonomy need is found as associated with purpose in life (Ferrand et al., 2014). Moreover, self-determined actions are performed with action-control beliefs (the belief about the association between behaviors and their consequences) (Wehmeyer & Shogren, 2017). Trolling, on the other hand, is considered as the manifestation of online disinhibition which is defined as a form of failure in self-control (Voggeser et al., 2018). This can be considered as the evidence of impulsivity in trolling. The study of March et al., (2017) presented findings supporting this claim. It was found in this research that dysfunctional impulsivity explained unique variance in trolling together with dark personality traits. Trolls tend to act in an impulsive manner when they find someone or situation to troll. Furthermore, it is apparent that individuals engaging in trolling do not consider the further consequences of their actions on the victims. It can be claimed that behavioral trolling is not self-determined and it is performed impulsively. Therefore, individuals who are high on autonomy need satisfaction may not prefer trolling.

As mentioned earlier, satisfaction of relatedness need refers to feeling a genuine sense of belongingness with other individuals in the social environment (Ryan & Deci, 2000;
Ryan & Deci, 2002). A past research examining motivations behind social media use suggests that social interaction is a strong motive for individuals using social networking sites (Smock et al., 2011). The majority of the participants in the current research indicated that they use social networking sites more than other sites on the Internet. However, it is likely that individuals performing trolling do not have the social motivation and tend to start superficial interactions as compared to other individuals who use the Internet for relationship maintenance. Thus, individuals who are high on relatedness need satisfaction do not prefer trolling as in the autonomy need.

Furthermore, members of the griefers (a form of trolling), which is considered as an isolated group, can connect easily with each other because the isolation enhances the identification with griefing and other griefers in the game contexts (Paul et al., 2015). However, although it is not significant, the association between relatedness and behavioral/sarcastic trolling was negative, indicating that satisfaction of relatedness need is associated with less trolling. This situation also implied that in order to form connections between other members, a troll needs certain environments having clear borders and particular rules, such as online games. However, trolling behaviors were examined in more diverse platforms (e.g., social media sites, blogs, WhatsApp) in the present study. Therefore, it is likely that connecting with others as a troll is not simple as in the gaming context. Based on this information, it may be claimed that engaging in trolling on social media does not satisfy relatedness need as well. Future research can examine this issue further.

A similar situation may be valid for the competence need. Unlike griefing, trolling social media posts or WhatsApp conversations may not require particular skills. Therefore, individuals who are high on satisfaction of competence need may not prefer performing trolling. Moreover, as remembered, a past research showed the perception of the Internet competence is related to engaging in online misconduct (Selwyn, 2008). Informational feedback may also play a prominent role in engaging in online misconduct. For example, griefers receive immediate feedback when they grief other players in the game since it is easy to recognize griefing. However, detecting trolling is not easy because the surface meaning is different from the implied meaning.
(Schifanella, Juan, Tetreault, & Cao, 2016) and sometimes even individuals do not understand they are trolled. Therefore, an individual performing trolling may not know whether the act is successful or not. This may cause individuals performing trolling not to feel anything regarding competence after they trolled someone. As in the relatedness need, some online platforms (e.g., social media sites) may not be suitable for the competence need satisfaction after trolling. These claims necessitate conducting further research for certain conclusions.

Furthermore, moderation analyses revealed that gender was a significant moderator in the relationship between relatedness need satisfaction and sarcastic trolling. This was the only significant moderation observed in Study 2. The moderating effect of gender was also tested in the associations between autonomy/competence and behavioral/sarcastic trolling, but they were not significant. Only the moderating effect of gender in the link between relatedness need satisfaction and behavioral trolling was marginally significant and did not explain any variance.

The analysis showed that males who are low in relatedness need satisfaction performed more sarcastic trolling than females. This result indicates that males and females do not engage in sarcastic trolling equally and this difference is largest when they have lower levels of relatedness need satisfaction (i.e., -1SD from the mean). In other words, males who are low in relatedness need satisfaction were the ones engaging in trolling most. There may be several reasons associated with this finding. It is possible that the comments of the males who are low in relatedness need satisfaction may be perceived more negatively by the audience. Since it is difficult to detect sarcasm for the people other than its author (Khodak, Saunshi, & Vodrahalli, 2017), confusion can be possible for the comments written by male trolls who are low in relatedness need satisfaction. As the study of Klempka and Stimson (2014) indicated, older age groups may misunderstand the comments or the intention behind the comments because of the slang, juvenile humor, or the language used in the comments. Moreover, if individuals are not familiar with these types of comments, they may also show negative reactions. Males who are low in relatedness need satisfaction may enjoy receiving these negative reactions as negative social potency was found as a strong predictor of trolling in a
past research (Cracker & March, 2016). It seems that performing sarcastic trolling with a social motivation to get negative reactions, rather than positive reactions may be a reason for males who are low in relatedness need satisfaction.

Another possibility is that sarcastic comments may not be evaluated as much negative as the other comments that directly target the personality of the individuals by belittling them. Even these comments may be perceived as funny and entertaining by some members in the online platforms, such as the close friends of the trolls, as some trolls stated in their qualitative interviews. A past research seems to support this evaluation by including sarcastic comments as a characteristic of trolling which are written to make the reader laugh (Klempka & Stimson, 2014). Accordingly, the comments of those males who are low in relatedness need satisfaction may also be perceived as entertaining by the audience. This may give rise to continuous sarcastic trolling events in males.

Moreover, it seems that since they do not have a concern regarding the quality of their online relationships, males who are low in relatedness need satisfaction might be more comfortable in writing sarcastic comments. Females, on the other hand, have more self-presentational concerns as compared with males (Fox & Vendemia, 2016; Haferkamp, Eimler, Papadakis, & Kruck, 2012; Herring & Kapidzic, 2015) while using social media. Moreover, the style in their language while communicating on the Internet is positive and gentle in general (Giller & Durndell, 2007; Thelwall et al., 2010) as compared with males. Therefore, it may be likely that females engage in sarcastic trolling less due to their concerns in online platforms regarding their image and relationships. In addition, it is possible that these concerns, rather than relatedness need satisfaction may be more prominent in females while performing sarcastic trolling. More research is required for precise conclusions.

4.9 Predictive Power of Life Goals on Trolling

Among the life goals, personal growth and community contribution were significant predictors of both sarcastic trolling and behavioral trolling. Sarcastic trolling was
positively predicted by personal growth whereas behavioral trolling was negatively predicted. Contrary to expectations, fame did not predict either of the trolling types. Actually, the association between fame and behavioral trolling was marginally significant and is in the expected direction. However, the effect is pretty small. Therefore, it can be stated that there is no association between fame and sarcastic/behavioral trolling.

Although not hypothesized specifically, the association between personal growth and engaging in sarcastic trolling is in the expected direction. As mentioned before, personal growth requires a developed sense of self which provides individuals with insight regarding their actions (Williams et al., 2000). Although past research claims that trolls have no instrumental purpose while performing trolling (e.g., Buckels et al., 2014), performing sarcastic trolling may be associated with an instrumental purpose. As the items of the sarcastic trolling subfactor imply, sarcastic trolls want to give information to their readers who do not know or have incorrect information about a topic. Moreover, sarcastic trolls also do not choose their victims randomly when they have a specific aim. For instance, they choose people who have ridiculous ideas about a sensitive topic and defend these ideas fanatically, as the items of the sarcastic trolling subfactor stated. These trolls want to teach these people that their opinions are nonsensical in an unusual way. In the qualitative interviews, a few participants stated that they feel good about themselves after making such comments. It can be claimed that these trolls have a specific reason to perform trolling in advance and after reaching the aim, they may consider it as a cue for personal development. However, this assumption is entirely new. Therefore, another avenue for future research is to examine this assumption further.

In behavioral trolling, however, trolls target other people with more malicious purposes such as insulting, annoying or giving misleading information by writing provocative comments. For example, they write irrelevant or completely incorrect responses to the posts requesting help in an important issue. Moreover, they use a derogatory and annoying language in their comments (Ghoshall, 2015; Nudd, 2015; Synott et al., 2017). The fact that behavioral trolling was predicted by personal growth
negatively seems to support this claim. Corroborating previous research (Buckels et al., 2014), it seems that the primary goal of these trolls in writing comments is to have fun. More studies are needed to support these conclusions.

Last, community contribution predicted behavioral trolling negatively, as expected. Thus, the last hypothesis of the current research received support. Some previous studies showed that trolls negatively influence the flow of online discussions in forums in which critical topics are discussed (Bishop, 2014a; Herring et al., 2002). For example, by posting provocative comments continuously, trolls made members of a feminist forum exhausted (Herring et al., 2002). Moreover, a famous trolling group known as Russia’s Internet Research Agency (IRA) engaged in a more effective trolling activity to influence the presidential elections of the U.S. in 2016 by creating an environment with anger and division via social media (Ifraimova & Shuster, 2018; Lee, 2018). These examples are well suited to understand how behavioral trolling is negatively associated with community contribution. These results also suggest that although the actions of trolls take place in online platforms, their effects can be observed in offline communities. Thus, it may not be entirely accurate to assume that trolling is just a form of online bullying or harassment. Its effects can be contagious.

Community contribution predicted sarcastic trolling negatively as well. This finding is surprising as personal growth predicted sarcastic trolling positively. A past research revealed there is a positive link between experiences of personal growth and future community services (Singer, King, Green, & Barr, 2002) which seems contradictory to the finding of the current research. However, one can argue that personal growth does not require to contribute to the community. It may be possible that individuals engaging in sarcastic trolling value only self-development, which in turn may lead to a negative link between sarcastic trolling and community contribution. When they work for their own development, they may neglect the development of the community. Another possibility is that the very nature of trolling may block the attainment of enjoyment from community contribution. Despite sarcastic trolling is different from behavioral trolling in some aspects, it is still a form of trolling and it seems to care personal enjoyment more. More research is needed for precise conclusions.
4.10 Contributions and Implications

The qualitative and two correlational studies extend our knowledge about the differences between trolling and cyberbullying, different forms of trolling, and the predictors of trolling. The current research also extends the past research by investigating the link between trolling and basic needs/life goals with reference to self-determination theory. Thus, the present study provides a theory-based motivational approach addressing two different forms of trolling, sarcastic trolling and behavioral trolling.

The new form of trolling emerged and a new scale measuring sarcastic trolling was developed in the course of the present study. The association between sarcastic trolling and Troll Deviancy Scale attracts attention. The medium correlation between the two can be assumed as an indicator that the sarcastic trolling subscale can be used to detect the additional domains of trolling in future research. The sarcastic trolling subscale, of which reliability and validity were proven, uniquely contributes to the literature by providing a more detailed understanding of different trolling behaviors. Moreover, Troll Deviancy Scale was adapted to Turkish and used in both Study 1 and Study 2 to measure behavioral trolling. The psychometric properties of the scale seem satisfactory. Therefore, the present research also contributes to the growing body of research investigating trolling behaviors in Turkish culture.

The moderating role of relational aggression, but not overt aggression, in the association between trolling/cyberbullying and dark personality characteristics was shown for the first time in the current research. Based on this finding, it can be claimed that victims of trolling and cyberbullying should be aware of the fact that their friends or acquaintances can be the offenders, rather than a totally unknown person to them. Moreover, it was also found that men who are low in relatedness need satisfaction perform more sarcastic trolling than women. The moderating role of relational aggression on the link between dark personality/need for recognition and trolling/cyberbullying also gives information about the profile of trolls and cyberbullies in Study 1. With this information in mind, the stress of the victims can be
lowered while posting content or writing a comment. Since they know the intention and characteristics of the trolls and/or cyberbullies, the victims can behave strategically when exposed to trolling or cyberbullying and do not take the malicious actions of the trolls and cyberbullies personally. In this way, the disruptive effects of cyberbullying and trolling on the victims can be minimized. A past research (Ging & Norman, 2016) examining teenage girls’ experiences of conflict with cyberbullying on Facebook suggested that the real problem is not about the social media literacy or less knowledge about the dangers of online communication. One of the real problems is that these girls do not have the necessary empowerment to confront with the offenders after being bullied. This situation may also be valid for other Internet users. If individuals have information about the personality/characteristics of the aggressors, they may not avoid confrontation. As claimed in a past research (Craker & March, 2016), educating Internet users about the goals and characteristics of trolls and cyberbullies may cause victims to gain more self-confidence and behave accordingly when exposed to online harassment. Therefore, findings of the present research regarding the characteristics of trolls and cyberbullies can be used to educate the Internet users.

Moreover, several strategies can be developed to mitigate the effects of cyberbullying and behavioral trolling based on the findings that relational aggression moderated the link between dark personality and trolling/cyberbullying and overt aggression predicted both cyberbullying and trolling. In such a way that, parents, teachers, and other authorities can educate children and youth about the harmful effects of aggression, especially the high levels of relational aggression. In this way, necessary precautions can be taken in advance and the emergence of new cyberbullies and trolls can be minimized.

4.11 Limitations

While the findings of the present study advance our understanding of the differences between trolls and cyberbullies and different forms of trolling behaviors, some
limitations warrant consideration and offer avenues for future research. The first limitation is about the psychometric property of some scales used in the current study. Some scales had reliability scores lower than the accepted cut-off value which is .70 (Schmitt, 1996). For example, Revised Cyberbullying Inventory, narcissism, psychopathy, and competence subscales had Cronbach alpha values are about .67 and .68. Moreover, although sarcastic trolling has sufficient internal consistency (Cronbach’s α = .91), further studies are needed to validate its psychometric properties before making assumptions about the generalizability of the associations. The same concern is valid for Need for Recognition Scale, as mentioned before.

Second, the sampling procedure may influence the results negatively. Specifically, as the participation is voluntary and anonymous, it is impossible to determine whether self-report questionnaires were trollied by the participants due to the very nature of trolling. However, the term “trolling” was not used in participant recruitment advertisements, voluntary participation form, and the questionnaires itself as in the past research (e.g., Cook et al., 2018; Zezulka & Seigfried-Spellar, 2016) to address this potential bias.

A further limitation is about the sampling. The high rate of female participants (76.3%) in comparison to male participants (23.4%) in the present research may create concern. However, it was shown that in most of the psychological research, the majority of the participants were female (approximately 71%). Thus, the high proportion of women in comparison with men is not surprising in correlational studies (Gosling, Vazire, Srivastava, & John, 2004). Although findings revealed a significant difference between males and females in terms of trolling and cyberbullying behaviors (i.e., males performed more behavioral trolling, sarcastic trolling, and cyberbullying behaviors than females) and the moderating role of gender, this gender disparity can be addressed when examining online misbehaviors in future research.

Last, given that the correlational design of the present research does not permit causal conclusions to be inferred due to the measurement of single incidents of the online misbehaviors, experimental and longitudinal designs are necessary to determine the
nature of the relationship between performing trolling and need satisfaction/life goals. Therefore, the findings of the current study should be interpreted carefully.

4.12 Concluding Remarks

In the current dissertation, differences between trolls and cyberbullies were examined and trolling was investigated from the self-determination theory perspective. Moreover, this research introduced a new measurement tool assessing a new form of trolling, sarcastic trolling, depending on the reports obtained from the qualitative interviews. The findings showed that although trolls and cyberbullies have not been differentiated clearly, cyberbullies and the individuals who have never engaged in trolling and cyberbullying have been differentiated more clearly. Moreover, another important observation is that relational aggression, rather than overt aggression was a significant moderator in predicting both cyberbullying and trolling. Once more, the role of aggression in the perpetration of online harassment was revealed in the present research. This was important in the sense that intervention/prevention strategies can be developed accordingly.

Moreover, among the basic needs, only autonomy predicted behavioral trolling negatively. The unique and moderating role of gender was examined in the link between basic needs satisfaction and sarcastic/behavioral trolling. In considering how the association between relatedness need and sarcastic trolling varied across genders, it can be argued that males and females may have different motivations while performing sarcastic trolling. However, explained variances are low so there are other variables that should be considered in future research. Furthermore, differences between the predictive power of life goals on sarcastic trolling and behavioral trolling showed that these two forms of trolling target different aspects of trolling.

On the whole, findings of the current research suggest that trolling is a multi-faceted construct and subfactors require separate investigations. Grouping all trolling behaviors under a common factor may lead to incomplete conclusions and interpretations. Findings of the present research suggest that examining trolling
behaviors separately provides better understanding about the effects of the specific forms of trolling which in turn allows designing of the pertinent research. Moreover, there may be other classifications regarding trolling behaviors and different types of trolling may be better distinguished from cyberbullying. Thus, findings of the current study are crucial to give rise to further research to examine trolling behaviors from different perspectives by taking into account the multi-faceted nature of trolling behaviors.


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APPENDICES

APPENDIX A: HUMAN SUBJECTS ETHICS COMMITTEE APPROVAL
APPENDIX B:  GLOBAL ASSESSMENT OF FACEBOOK TROLLING

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1. Online (çevrimiçi) platformlarda tartışma yaratıcı ya da rahatsız edici gönderiler paylaşırım ya da gönderirim
2. Online platformlardaki bazı komik paylaşımların diğerleri tarafından kırıcı olarak değerlendirilebilir.
3. Online platformların yorum bölümlerinde ya da haber akışında insanları rahatsız etmekten ve onları çileden çıkarmaktan hoşlanırım.
4. Online platformlarda diğer insanların neşe ve memnuniyetine dahil olmaktan hoşlanırım.
5. Online platformlarda diğer insanların üzmekten zevk alırım.
6. Online platformlarda tartışma yaratabilirim ya da olay çıkarmayım tercih etmem.
7. Online platformlarda ne istersem söylerim ve eğer insanlar bununla başa çıkamıyorsa, bu gerçekten kahramanlıklarını içerdir.
8. Online platformlarda diğer insanların ilham verici ve ilginç paylaşımlarını desteklemekten zevk alırım.
9. Online platformlarda bir şey ne kadar güzel ve safsa, onu bozmak o kadar tatmin edicidir.

Puanlama: 4, 6 ve 8 ters kodlanmaktadır
Ters kodlamadan sonra, tüm itemler toplanarak toplam puan elde edilmektedir.
APPENDIX C: CYBERBULLY/TROLL DEVIANCY SCALE

Çevrimiçi Sosyal Etkileşimler Anketi

(katılımcıların gördüğü başlık)

Aşağıda kendinizle ilgili sorulara olabildiğiniz kadar dürüst cevap veriniz.
Cevaplarınız gizli tutulacaktır. Hiçbir zaman kimliğini açıklamanız gerektiğiniz gerekmeyecek ya da kendinizi tanıtmınız istermeyecektir.

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1. Online bir şekilde tanımadığınız birine hakaret etmek.
2. Sırf canını sıkmak için bir yabancıya online olarak küfretmek ya da aşağıdaki gibi bir dil kullanmak
3. Tanımadığınız bir kişi hakkında online olarak kaba ya da gerçek olmayan yorumlar yazmak.
4. Online bir ankette tanımadığınız bir kişi hakkında kaba ya da kötü niyetli yorumları oy vermek.
5. Online bir ziyaretçi defterine bir yabancı hakkında kaba ya da kötü niyetli şeyler yazmak.
6. Tanımadığınız insanların rahatsız hissettirmek için online olarak içerik paylaşmak.
7. Şeytanın avukatlığını oynamak adına sırf kargaşa sebep olmak için, gerçekten sahip olmadığını bir fikri online bir platformda yorum olarak yazmak.
8. Tanımadığınız ölmüş birinin Facebook/internet anma sayfasını ziyaret ederek olumsuz yorumlar yazmak.
9. Online bir şekilde, kendi eğlenceniz için başkalarını çıldırtacak bir yorum yazmak.
10. Online bir şekilde, tartışmanın yönünü değiştirerek saptırma niyetiyle yorumlar yazmak.

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11. Kargaşaya yol açmak için online bir şekilde, taviye almak amacıyla yazılan bir soruya uygunsuz ya da alakasız bir cevap vermek.

12. Online bir grubun üyesi olmak ve bu guba girmek için gerçekten tartışma konusuyla ilgileniyormuş gibi davranıp daha sonra kargaşaya yol açmak için grubun inançlarına karşı çıkmaya başlamak.

13. Karışıklığa sebep olmak için online olarak, anlamı belirsiz yorumlar yazmak.
APPENDIX D:  SARCASTIC TROLLING


Sorulara cevap vermek için aşağıdaki ölçeği kullanınız:

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1. Writing humorous/witty comments online to people whom I see advocating obviously absurd ideas.
(Apaçık bir şekilde saçma fikirler savunduğunu gördüğüm insanlara online (çevrimiçi) bir şekilde espirili/şaka yollu yorumlar yazmak).

2. Writing humorous/witty comments in online platforms to someone’s posts on a topic that I see the other party has wrong information.
(Online (çevrimiçi) ortamlarda karşı tarafın yanlış bilgi sahibi olduğunu gördüğüm bir konuda kişinin paylaşımına espirili/şaka yolu yorumlar yazmak).

3. Writing humorous/witty comments to the content (e.g., news, status updates etc.) which I obviously know that is a lie.
(Apaçık bir şekilde yalan olduğunu bildiğim içeriklere (haber içerikli paylaşımlar, durum güncellemeleri vb.) espirili /şaka yolu yorumlar yazmak).

4. Writing sarcastic comments to the content (e.g., news, status updates etc.) which I obviously know that is a lie.
(Apaçık bir şekilde yalan olduğunu bildiğim içeriklere (haber içerikli paylaşımlar, durum güncellemeleri vb.) alaycı yorumlar yazmak).

5. Writing sarcastic comments online to people whom I see advocating obviously absurd ideas.
(Apaçık bir şekilde saçma fikirler savunduğunu gördüğüm insanlara online (çevrimiçi) bir şekilde alaycı yorumlar yazmak).
6. Writing sarcastic comments in online platforms to someone’s post on a topic that I see the other party has wrong information.

(Online (çevrimiçi) ortamlarda karşı taraf yanlış bilgi sahibi olduğunu gördüğüm bir konuda kişinin paylaşımlarına alaycı yorumlar yazmak).

7. While online, writing humorous/witty comments to others in a situation which I feel ignorant/insufficient.

(Online (çevrimiçi) iken bilgisiz/yetersiz hissettiğim bir durumda başkalarına espirili/şaka yollu yorumlar yazmak).

8. While online, writing sarcastic comments to others in a situation which I feel ignorant/insufficient.

(Online (çevrimiçi) iken bilgisiz/yetersiz hissettiğim bir durumda başkalarına alaycı yorumlar yazmak).
APPENDIX E:  YENİLENMİŞ SİBER ZORBALIK ENVANTERİ – II

Aşağıda internet kullanırken kişilerin karşılaşabileceği bazı durumlar verilmiştir. Her bir durumu **son 6 ay** içerisinde ne sıklıkla yaptığınızı belirtiniz.

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</table>

1. Birine ait hesap şifresini ele geçirmek
2. Başkasının hesabını izinsiz kullanarak onu kücük düşürecek paylaşımlar yapmak
3. Birini tehdit etmek
4. Birine hakaret etmek
5. Utandırıcı veya kırıcı mesajlar göndermek
6. Sahibinin görülmesinden rahatsızlık duyacağı bir fotoğrafı veya videoyu başkalarıyla paylaşmak
7. Bir sırrı başkalarının izni olmadan başkalarıyla paylaşmak
8. Dedikodu yaymak
9. Bir başkası adına profil açıp oymuş gibi davranmak
10. Küçük düşürcü internet sayfası/sitesi oluşturmak
APPENDIX F: ROSENBERG SELF-ESTEEM SCALE

Lütfen aşağıdaki her bir maddeyi dikkatlice okuyunuz ve size uygun şekilde cevaplayınız.

<table>
<thead>
<tr>
<th>Kesinlikle Katılmıyorum</th>
<th>Katılmıyorum</th>
<th>Biraz Ne Katılıyorum</th>
<th>Ne Katılıyorum</th>
<th>Biraz Katılıyorum</th>
<th>Katılıyorum</th>
<th>Kesinlikle Katılmıyorum</th>
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</table>

1. Kendimi en az diğer insanlar kadar değerli buluyorum.

2. Birçok olumlu özelliğimin olduğunu düşünüyorum.


4. Ben de çoğu insan gibi işleri iyi yapabilirim.

5. Kendimde gurur duyacak fazla bir şey bulamıyorum.


7. Genel olarak kendimden memnunum.

8. Kendime karşı daha fazla saygı duyabilmeyi isterdim.


10. Bazı zamanlar, hiç de yeterli biri olmadığımı düşünüyorum.
APPENDIX G: NEED FOR RECOGNITION

Lütfen aşağıdaki her bir maddeyi dikkatlice okuyunuz ve size uygun şekilde cevaplayınız.

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<thead>
<tr>
<th>Kesinlikle Katılmıyorum</th>
<th>Katılmıyorum</th>
<th>Biraz Katılıyor</th>
<th>Ne Katiliyorum</th>
<th>Biraz Katılıyor</th>
<th>Katılıyor</th>
<th>Kesinlikle Katılıyor</th>
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1. Uzun zaman gerektiren işlerdense, hemen sonuç alabileceği ve ödülüendirilebileceğim bir işe uğraşmayı tercih ederim.

2. Pohpohlanmak hoşuma gider.

3. Markalı giysiler kullanan kişilerin çevrelerinde dikkat çekip, seçkin olarak algılanıldığını düşünüyorum.

4. Benim için tanınan, beğenilen bir kişi olmak değil, yapmak istediklerimi yapabilmek önemlidir.

5. Bir toplulukta söyleyecek önemli bir düşünce olmasa bile varlığıımı hissettirebilmek için söz almaya çalışırım.

6. Ne iş yaparsam yapayım belirli bir unvan sahibi olarak çalışmak isterim.

7. Seçmek durumunda kalsam sahnedeki ünlü kişi olmaktansa sahne arkasındaki pek tanınmayan ama asıl işleri gören kişi olmayı tercih ederdim.

8. Eğer çevredeki tercih etmeyeceğim işi yapma istemem.


10. Tanınmış, ünlü biri olmamı sağlayacak herhangi bir işi kabul edebilirim.

11. Genel kabul gören konular dişinda bir konuda çalışmayı zor veya verimsiz olabileceğini için tercih etmem.

12. Bir toplulukta dikkatleri üzerine toplamaktan memnun olurum.
13. Çoğu başarılı insanı kimse tanımıyor o nedenle bana “Başarı mı yoka ün mü” dense ben ünlü olmayı seçerim.
15. Maddi durumumun elverdiği oranda moda uygun ve markalı giysiler giymeye önem veririm.

Not: Alt-boyutlar: Fame orientation: 8, 9, 10, 11, 13. Attention-seeking: 4(R), 7(R), 12.
APPENDIX H:  AGGRESSION

Aşağıdaki maddeleri dikkatlice okuyunuz sizin ne kadar doğru olduğunu işaretleyiniz.

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<td>Hiç değil</td>
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<td>Doğru değil</td>
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<td>Biraz doğru</td>
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<td>Tamamen doğru</td>
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**Instrumental Overt Aggression**

İstediğini almak için sık sık kavga başlatırım.
Sıklıkla, istediyimi elde etmek için başkalarını tehdit ederim.
Sıklıkla, istediyimi elde etmek için başkalarına vururum, tekme ya da yumruk atarım.
İstediğini elde etmek için, sıklıkla diğerlerini küçük düşürürüm.
İstediğini elde etmek için, sıklıkla arkadaşlarına kötü şeyler söylerim.
İstediğini elde etmek için, sıklıkla arkadaşlarını incitirim.

**Instrumental Relational Aggression**

İstediğini elde etmek için sıklıkla arkadaşlarına, birini sevmeyi bırakmalaraı söylerim.
İstediğini elde etmek için sıklıkla arkadaşlarına arkadaşlarını hakkında kötü şeyler söylerim.
İstediğini elde etmek için sıklıkla arkadaşlarını arkadaşı grubundan uzak tutarım.
İstediğini elde etmek için sıklık başkalarına, artık onlarla arkadaşlık etmeyeceğini söyleyirim.
İstediğini elde etmek için sıklık diğerleri yok sayarım ya da onlarla konuşmam.
İstediğini elde etmek için sıklık dedikodu yaparım ya da söyleyenti çıkarırım.
Lütfen aşağıdaki her bir maddeyi dikkatlice okuyunuz ve size uygun şekilde cevaplayınız.

**Makyavelizm**
1. Sırlarınızı anlatmak akıllıca değildir.
2. İstediğimi elde etmek için akıllıca manipülasyon (kendi çıkarları doğrultusunda birilerini yada bir şeyleri yönlendirme) yapmaktan hoşlanırım.
3. Her ne pahasına olursa olsun, önemli kişileri kendi tarafına çekmelisin.
4. Başkalarıyla doğrudan çatışma yaşamaktan kaçının, çünkü bu kişiler ileride işinize yarayabilir.
5. Daha sonra insanlara karşı kullanabileceğiniz bilgileri bir kenarda tutmak akıllıcadır.
6. İnsanlardan intikam almak için doğru zamanı beklemelisiniz.
7. İnsanların bilmesi gerekmeyen şeyleri onlardan saklamalısınız.
8. Planlarınızın başkalarına değil, kendinize fayda sağlayacaktaın kaçıın, çünkü bu kişiler ileride işinize yarayabilir.

**Narsizm**
10. İnsanlar beni doğal bir lider olarak görür.
11. İlgi odağı olmaktan nefret ederim. *
13. Özel biri olduğunu biliyorum, çünkü herkes bana sürekli böyle söylüyor.
14. Önemli kişilerle tanışmaktan hoşlanırım.
15. Biri bana iltifat ederse mahcup olurum. *
16. Ünlü kişilerle mukayese edilmişiğim vardır.
17. Ortalama biriyim. *

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**APPENDIX I: SHORT DARK TRIAD**

<table>
<thead>
<tr>
<th>Kesinlikle</th>
<th>Katılımyor</th>
<th>Biraz</th>
<th>Ne</th>
<th>Biraz</th>
<th>Katılıyor</th>
<th>Kesinlikle</th>
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<td>Katılımyor</td>
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<td>Katılıyor</td>
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<td>Katılıyorum</td>
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<td>Katılıyorum</td>
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</tbody>
</table>

1. Sırlarınızı anlatmak akıllıca değildir.
2. İstediğimi elde etmek için akıllıca manipülasyon (kendi çıkarları doğrultusunda birilerini yada bir şeyleri yönlendirme) yapmaktan hoşlanırım.
3. Her ne pahasına olursa olsun, önemli kişileri kendi tarafına çekmelisin.
4. Başkalarıyla doğrudan çatışma yaşamaktan kaçının, çünkü bu kişiler ileride işinize yarayabilir.
5. Daha sonra insanlara karşı kullanabileceğiniz bilgileri bir kenarda tutmak akıllıcadır.
6. İnsanlardan intikam almak için doğru zamanı beklemelisiniz.
7. İnsanların bilmesi gerekmeyen şeyleri onlardan saklamalısınız.
8. Planlarınızın başkalarına değil, kendinize fayda sağlayacağından emin olun.

*Not: * işaretli cümleler, daha kendi çıkarınızı doğrulamak için öne çıkan ve adaylarla ilişkili olmayan durumlardan kaynaklanabilir.
18. Hak ettiği saygıyi görmekte ısrar ederim.

Psikopati

19. Yetkililerden intikam almak hoşuma gider.
20. Tehlikeli durumlardan kaçınırım. *
21. İntikam hızlı ve çirkin (bedeli ağır bir şekilde) olmalıdır.
22. İnsanlar sıklıkla kontrolden çıktığımı söyler.
23. Başkalarına karşı kaba olabildiğim doğrudur.
24. Benimle uğraşanlar daima pişman olur.
25. Yasa dışı işlere bulaşmaktan dolayı hiç
27. İstediğini almak için her şeyi söylerim.

Note: Maddelerin sırası orjinal versiyondaki gibidir.
* Ters puanlanan maddeleri belirtir.
APPENDIX J: SOCIAL DESIRABILITY

Lütfen aşağıdaki her bir maddeyi dikkatlice okuyunuz ve size uygun şekilde cevaplayınız.

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<thead>
<tr>
<th>Kesinlikle Katılmıyorum</th>
<th>Biraz Katılıyor</th>
<th>Ne Katılıyor</th>
<th>Biraz Katıyorum</th>
<th>Kesinlikle Katılmıyorum</th>
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1. Asla birinden çok fazla nefret etmem.
2. Daima giyimime özen gösteririm.
4. Hata yaptığında daima itiraf etmek isterim.
5. Başkalarına verdiği öğütleri daima kendim de uygulamaya çalışırım.
7. Diğer insanlar beniminden çok farklı fikirler ileri sürdüğünde hiç canım sıkılmaz.
APPENDIX K: GENERAL NEED SATISFACTION SCALE

Lütfen aşağıdaki her bir maddeyi dikkatlice okuyunuz ve size uygun şekilde cevaplayıniz.

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<thead>
<tr>
<th>Kesinlikle Kapılmıyorum</th>
<th>Biraz Kapılıyorum</th>
<th>Ne Kapılıyorum</th>
<th>Biraz Kapılıyorum</th>
<th>Ne Kapılıyorum</th>
<th>Kesinlikle Kapılıyorum</th>
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1. Hayatımı nasıl yaşayacağıma karar vermekte kendimi özgürg hissederim.
2. Etkileşimde bulunduğum insanları gerçekten severim.
4. Hayatımda kendimi baskı altında hissederim.
5. Tanıdığım insanlar yaptığım şeylerde bana iyi olduğumu söylerler.
7. Genellikle içime kapanığımdır ve çok fazla sosyal çevrem yoktur.
8. Genellikle fikirlerimi ve düşüncelerimi ifade etmekte kendimi özgürg hissederim.
9. Düzenli olarak etkileşimde bulunduğum kişileri arkadaşım olarak görürum.
10. Yakın zaman içinde ilginç yeni beceriler kazandım.
13. Çoğu günler yaptığım şeylerden başarmışlak duygusu hissedelim.
15. Ne kadar potansiyele sahip olduğunu hayatında gösterme fırsatım pek olmaz.
16. Yakın olduğum çok sayıda insan yoktur.
17. Günlük olaylarda kendim gibi olabildiğini himsediyorum.
18. Düzenli olarak etkileşimde bulunduğum insanlar benden pek hoşnut gibi gözükmezler.
20. Günlük yaşamındaki yaptığım şeyler kendi kendime karar verme fırsatım pek olmaz.
21. İnsanlar genelde bana karşı oldukça sıcakkanlıdır.

Özerklik: 1, 4(T), 8, 11(T), 14, 17, 20(T),
Yetkinlik: 3(T), 5, 10, 13, 15(T), 19(T)
İlişkisellik: 2, 6, 7(T), 9, 12, 16(T), 18(T), 21
APPENDIX L: YAŞAM AMAÇLARI ÖLÇEĞİ


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<th>Amaç</th>
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<tbody>
<tr>
<td>İnsanlarla daha sağlıklı ilişkiler kurmak</td>
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<td>İnsanlara yardımcı olmak</td>
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<td>Çok para kazanmak</td>
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<td>Beden sağlığını korumak</td>
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<td>İleri yaşlarda bile genç kalabilmek</td>
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<td>Dostluklarını sürdürmek ve yeni dostluklar kurmak</td>
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<td>İnsanlar tarafından beğenilen birisi olmak</td>
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<td>Dünya barış için çalışmak</td>
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<td>Yaşam değerlerime sahip çıkmak</td>
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<td>Sağlıklı bir yaşam sürmek</td>
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<td>Güzel görünmek (yaşlılığa rağmen)</td>
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<td>Ailemi mutlu etmek</td>
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<td>15</td>
<td>İnsanların sorunlarına çözümler bulabilmek</td>
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<td>Kendimi her konuda geliştirmeye çalışmak</td>
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<td>İstediğim şeyleri alabileceği kadar yeterli paraya sahip olmak</td>
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<td>Sağlıklı bir yaşam tarzına sahip olmak</td>
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<td>Çekici olmak</td>
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<td>20</td>
<td>İyi ve anlamlı dostluklar kurmak</td>
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<td>21</td>
<td>İlk akla gelen isimlerden olmak ve ölüne bile hatırlanmak</td>
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<td>22</td>
<td>Başıklarının mutluluğu için çalışmak</td>
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<td>23</td>
<td>Kültürli bir insan olmak</td>
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**Faktörler:**

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<td>41,42,45</td>
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</table>

*İçsel amaçlar

**Dışsal amaçlar

**Not:** Ölçek içinde herhangi bir tersine puanlanan madde yok. Maddeler 1 ile 7 arasında derecelendiriliyor. Faktörler ayrı ayrı puanlanıp kullanıldığı gibi içsel ve dışsal olarak iki üst faktörde toplanarak da değerlendirilebilir.
1. Trollingi nasıl tanımlarsınız?

2. Hangi davranışlar trolling olarak değerlendirilebilir?

3. Trolling ve cyberbullying birbirinden farklı mıdır?

4. Daha önce trollendiniz mi?

5. Bu nasıl hissettirdi?

6. Ne sıklıkta trolling yapıyorsunuz?

7. En çok hangi online platformda trolling yapıyorsunuz (sosyal medya, forumlar, YouTube vb.)?

8. Trolling yapma sebepleriniz nelerdir?

9. Trolling yaparken belli insanları mı hedef aleyhine yapıyorsunuz yoksa rastgele insanları mı seçiyorsunuz?

10. Sadece çevrimiçi (online) iken mi trolling yapıyorsunuz? Normal hayatında da trolling yapan biri misiniz?

11. Trolling yaptuktan sonra kendinizi nasıl hissediyorsunuz?

12. Trolling yaptuktan sonra insanların tuzağıma düşüp düşmediğini umursar misiniz?

13. En çok hangi durumlar size trolling yapmaya teşvik eder? Örneğin birilerinin trollendiğini gördüğünüzde sizi bu insanı troller misiniz?
Elif Manuoğlu

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The Scientific and Technological Research Council of Turkey (TÜBİTAK), Ankara, Turkey

**January 2020**
Article Award (Intergenerational Transmission of Work Values in Czech Republic, Spain, and Turkey: Parent-Child Similarity and the Moderating Role of Parenting Behaviors) (ODTÜ Geliştirme Vakfı)

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**2014-2018**
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Spanish: Beginner

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Sep’ 2015-Jan’ 2016 Project Assistant

Bilkent University, Faculty of Business Administration

TÜBİTAK Project, Ankara, Turkey

RESEARCH INTERESTS

Social media use motivation, effects of social media use on well-being, cyberbullying, trolling, and phubbing motivations, self-determination theory and basic psychological need satisfaction; parenting behaviors; rumination; ambivalent sexism.

PUBLICATIONS


PRESENTATIONS


TRAININGS

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Advanced SPSS AMOS (A package program for structural equation modeling)
Advanced Qualtrics
Advanced MS Office (Word, Powerpoint)
APPENDIX O: TURKISH SUMMARY / TÜRKÇE ÖZET


Trolleme ve Siber Zorbalık Arasındaki Benzerlikler ve Farklılıklar

ve davranışlar altında yatan motivasyonu inceleyen Öz-Yönetim Kuramı’nı (Self-Determination Theory; Deci & Ryan, 1985; Ryan & Deci, 2017) kullanılacaktır.

Alanyazın Taraması


trollemeyi siber zorbalığın bir türü olarak tanımlarken, bir kısmı da her ikisinin aynı olduğunu belirtmiştir.


İkinci olarak, yetkinlik içinde bulunan çevre ile olan etkileşimde etkin ve yeterli hissetmek olarak tanımlanmaktadır (Ryan & Deci, 2002). Özerklik ihtiyaçında olduğu gibi, trolleme ve yetkinlik arasındaki ilişkiyi inceleyen bir çalışmaya da rastlanmıştır ancak geçmiş bir çalışma internet yetkinliği ile çevrimiçi kötü davranışlar arasında pozitif bir ilişki olduğunu göstermiştir (Selwyn, 2008). Benzer bir
ilişki trolleme ve yetkinlik ihtiyaç tatmini arasında da olabilir. Örneğin, yetkinlik ihtiyacını halihazırda tatmin etmiş olan bireyler trolleme davranışını tercih edebilir. Bu sebeple, yetkinlik ihtiyaç tatmininin trolleme davranışını pozitif yönde yordaması beklenmektedir.


anlamlandırılamaya yardımcı olur (Ingrid, Majda, & Dubravka, 2009). Bu noktada hayat amaçları ve trolleme arasındaki ilişkiyi incelemek anlamlı olabilir.


**Yöntem**

**Çalışma 1**


6. Tanınma İhtiyacı Ölçeği: İmamoğlu (2001b) tarafından geliştirilen 15 maddelik bir ölçektir. Maddeler 1 (kesinlikle katılmıyorum)’ den 7 (kesinlikle katılmışım)’ ye
kadar olan Likert tipi bir ölçek üzerinde değerlendirilmiştir ve iç tutarlılık katsayısı bu çalışma için .87’dir. Yüksek puanlar yüksek tanınma ihtiyacına karşılık gelmektedir.


Bulgular


tek fark tanınma ihtiyacı üzerindendir. Troller \((\text{Ort} = 3.17, \text{SS} = .84)\) anlamlı bir şekilde siber zorbalardan \((\text{Ort} = 3.51, \text{SS} = .82)\) tanınma ihtiyacı bakımından daha düşük puanlar almıştır \([F (2, 511) = 3.96, p = .02; \text{partial } \eta^2 = .02]\).

MANOVA’nın ardından trolleme ve siber zorbalığın yordayıcılarını ve araçsal saldırganlığın aracı değişken rolünü incelemek için hiyerarşik regresyon analizleri yapılmıştır. Analizler trolleme ve siber zorbalık için ayrı ayrı yapılmıştır. Analizlerde sosyal beğenirlik ve cinsiyetin rolü kontrol edilmek amacıyla ilk adımda girilmiştir. İkinci adımda karanlık üçlü, benlik saygı, tanınma ihtiyacı ve araçsal saldırganlık (ilişkisel ve açık), son adımda da ikili etkileşim terimleri girilmiştir.

İlk olarak siber zorbalık için yapılan analizin sonuçlarına göre tanınma ihtiyacı ve ilişkisel saldırganlık \((\beta = .11, p = .028)\) ile psikopati ve ilişkisel saldırganlık \((\beta = .14, p = .037)\) etkileşimleri siber zorbalığı anlamlı bir şekilde yordamıştır (Figür 1 ve Figür 2). Buna göre hem ilişkisel saldırganlıktan hem de tanımayan ve yüksek puan alan bireyler (+1SS) siber zorbalığı en fazla gerçekleştiren bireylerdir. Benzer şekilde hem psikopati hem de ilişkisel saldırganlıktan yüksek puan alan bireyler siber zorbalığı en fazla gerçekleştiren gruptur.


Bu çalışma ile alanyazına trolleme davranışlarını ölçen yeni bir ölçüm aracı kazandırılmıştır. Sonuçlar göstermiştir ki tolleme ve siber zorbalık çalışmada kullanılan değişkenler açısından beklediği gibi farklılıklar göstermemiştir. Ancak, siber zorbalar ve her iki davranış hiç yapmış bireyler arasında daha belirgin farklı olduğu görülmüştür. Ayrıca hem ilişkisel hem de açık saldırganlık trolleme ve siber zorbalıkla anlamlı ve pozitif yönde ilişkili olması rağmen, sadece ilişkisel
soldırганlıktı diğer değişkenler ve sizer zorbalık/trolleme arasındaki ilişkilerde anlamlı bir aracı değişken olmuştur.

Çalışma 2

Yöntem

Çalışmaya Türkiye’nin farklı üniversitelerinden 695 (532 kadın, Ortalama Yaş = 20.9) üniversite öğrencisi katılmıştır. Diğer uygulama ve websiteleri içinden, WhatsApp en sık kullanılan platformdur (% 89). Sırasıyla Instagram (% 76), YouTube (% 46) ve Twitter (% 38) en sık kullanılan diğer uygulamalardır. Çalışma 1’de olduğu gibi, katılımcılara tamamlanması yaklaşık 15 dakika süren çevrimiçi bir Ölçek bataryası sunulmuştur. Çalışma 1’den farklı olarak algılanan günlük internet kullanım süresi de sorulmuştur. Bu bataryanın içinde yer alan ölçekler aşağıdaki yer almaktadır.


2. Kinayeli Trolleme: Bu ölçek de Çalışma 1’de trollemeyi ölçmek için kullanılmıştır. Bu çalışma için ölçeğin iç tutarlılık katsayısı .91’dir. Çalışma 2’de Kinayeli Trolleme ve Troll/Sapkınlık Ölçeği’nin ortalamaları ayrı ayrı hesaplanarak analizler her ikisi için ayrı ayrı yapılmıştır.

3. Facebook Trolling Ölçeği: Dokuz maddelik bu ölçek (Craker & March, 2016) de Çalışma 1’de katılımcılara sunulmuş olmasına rağmen analizlerde kullanılmamıştır. Benzer şekilde, iç tutarlılık katsayısı düşük olduğundan (α = .50) Çalışma 2’de de analizlere dahil edilmemiştir.


Bulgular

Karışıklığı önlemek için Zezulka ve Seigfried-Spellar (2016) tarafından geliştirilen ölçekten davranışsal trolleme olarak bahsedilecektir. Yukarıda da belirtildiği gibi kinayeli trolleme ve davranışsal trolleme ayrı ayrı analiz edilerek temel ihtiyaç tatmini ve yaşam amaçlarının yordayıcı gücü bu iki tip trolleme davranışını üzerinde test edilmiştir. Ayrıca, trolleme ve temel ihtiyaç tatmini ilişkisinde cinsiyetin aracı değişken rolü de incelenmiştir. Analizler ilk olarak kinayeli trolleme için yapılmıştır. Hiyerarşik regresyon analizi sonucunda diğer etkileşim terimleri arasından (özerklik x cinsiyet, yetkinlik x cinsiyet) anlamlı çıkan ilişkiselliğin x cinsiyet etkileşimini göstermek için Process Macro (Model 1) aracı değişken analiz modeli kullanılmıştır. Bu analizde algılanan günlük internet kullanımı, özerklik ve yetkinlik eş değişken olarak analize dahil edilmiştir. Sonuçlara göre temel psikolojik ihtiyaçlar olan özerklik, yetkinlik ve ilişkiselliğin kinayeli trollemeyi anlamlı derecede yordamamaktadır. Yaşam amaçlarından ise topluma katkı ($B = -.11, SE = .04, p < .05, 95\% CI = [-.19 to -.03]$) ve kişisel gelişim ($B = .15, SE = .06, p < .05, 95\% CI = [.02-.27]$) kinayeli trollemeyi anlamlı şekilde yordamaktadır. Çalışmanın asıl amacı olan etkileşim etkisi incelendiğinde ise ilişkiselliğin x cinsiyet etkileşiminin anlamlı olduğu görülmektedir ($B = -.31, SE = .10, p < .01, 95\% CI = [-.50 to -.12]$). Buna göre, ilişkiselliğin ihtiyaç tatmini bakımından düşük puan alan erkekler kadınlara göre daha
fazla kinayeli trolleme yapmıştır. Bu model ile kinayeli trollemede toplama % 12 varyans açıklanmıştır \[F (1, 628) = 9.96, p < .01]\].

Bu analizin ardından aynı analiz davranışsal trolleme için de yapılmıştır. Temel ihtiyaçlar açısından sadece özerklik ihtiyaç tatmini davranışsal trolleme anlamlı ve negatif yönde yordamaktadır (\(B = -.04, SE = .02, p < .05, 95\% CI = [-.08 to -.01]\)). Yaşam amaçlarından ise kişisel gelişim (\(B = -.06, SE = .02, p < .05, 95\% CI = [-.10 to -.01]\)) ve topluma katkı (\(B = -.03, SE = .01, p < .05, 95\% CI = [-.06 to -.01]\)) davranışsal trolleme anlamlı ve negatif yönde yordamaktadır. Sonuçlar ayrıca göstermiştir ki kinayeli trollemenin aksine, davranışsal trollemede cinsiyet anlamlı bir aracı değişken değildir. Sonuç olarak bu model ile davranışsal trollemede açıklanan varyans %10’dur \[F (9, 628) = 12.68, p < .001]\].

Sonuçlara göre Öz-Yönetim Kuramı’nın yordayıcı gücünün kinayeli trolleme ve davranışsal trolleme için farklı olduğu söylenebilir. Buna ek olarak cinsiyetin yansısı modele farklı aracı değişkenler eklemek açıklanan varyansı artırabilir. Örneğin, olumsuz duygudurumu bunlardan bir tanesi olabilir. İlişkisel ihtiyaç tatmini bakımından düşük puan alan ve olumsuz duygubakımından yüksek puan alan bireylerin kinayeli trolleme davranışları ile diğer bireylerin kinayeli trolleme davranışları arasında fark olup olmadığını illeride yapılacak çalışmalarda test edilebilir.

**Tartışma**


Benlik saygı içerisinde siber zorbarlar, troller ve her iki davranışa da gerçekleştirmemiş bireyler arasında Zezulka ve Seigfried-Spellar (2016)’ın çalışmasında bulunan aksine,


Mevcut çalışmanın alanyazına katkılarının yanı sıra düşünüleceği gereken bazı sınırlıkleri da bulunmaktadır. İlk olarak bazı ölçeklerin psikometrik özellikleri sorunlu gibi görünmektedir. Örneğin iç tutarlılık katsayısı .70’in altında olan birkaç...

APPENDIX P: TEZ İZİN FORMU / THESIS PERMISSION FORM

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Fen Bilimleri Enstitüsü / Graduate School of Natural and Applied Sciences

Sosyal Bilimler Enstitüsü / Graduate School of Social Sciences

Uygulamalı Matematik Enstitüsü / Graduate School of Applied Mathematics

Enformatik Enstitüsü / Graduate School of Informatics

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TEZİN ADI / TITLE OF THE THESIS (İngilizce / English): Differences Between Trolling and Cyberbullying and Examination of Trolling from Self-Determination Theory Perspective.................................................................................................................................

TEZİN TÜRÜ / DEGREE: Yüksek Lisans / Master ☐ Doktora / PhD ☐

1. Tezin tamamı dünya çapında erişime açılacaktır. / Release the entire work immediately for access worldwide.

2. Tez iki yıl süreyle erişime kapalı olacaktır. / Secure the entire work for patent and/or proprietary purposes for a period of two years. *

3. Tez altı ay süreyle erişime kapalı olacaktır. / Secure the entire work for period of six months. *

* Enstitü Yönetim Kurulu kararının basılı kopyası tezle birlikte kütüphaneye teslim edilecektir. A copy of the decision of the Institute Administrative Committee will be delivered to the library together with the printed thesis.

Yazarın imzası / Signature .......................................................... Tarih / Date ........................................