Social Networking Sites and Adolescence:
A Content Analysis of the Published Studies

Sosyal Ağ Siteleri ve Ergenlik:
Yayımlanmış Çalışmaların İçerik Analizi

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Abstract

SNSs use in adolescent population has become widely studied research topic since the communication technology pertaining to social networking sites showed up globaly. With the aim of reviewing the literature for a holistic picture of the issue, related articles published between 2010 and 2018 (till October) were reviewed, analyzed, and coded through a qualitative content analysis approach. To be included in the review, publications needed to meet the following criteria: (a) inclusion of adolescent sample, (b) psychological constructs as study variables, and (c) peer-reviewed academic journals. Articles were analyzed according to the country of origin, discipline, research design, sample population, sample size, whether ethnicity of the sample being diverse or unified, publication year, psychological construct used, data analysis method, number of pages, SNSs tools specified and direction of the results. Various findings were obtained based on content analysis categories. Although negative consequences of SNSs use were reported more, there were controversial findings. Further research is needed.

Keywords: SNSs, adolescents, social networking sites, youth.

Öz

Sosyal ağ sitelerine ait iletişim teknolojisi dünya çapında ortaya çıktığından beri, ergen nüfusun sosyal ağ kullanımı sıkça çalışılan bir konu olmuştur. Konuyu daha bütüncül bir çerçevede anlamak ve literatürü irdelemek amacıyla, 2010 ve 2018 (Ekim ayına kadar) yayınlanan makaleler incelenmiş, analiz edilmiş ve nitel içerik analizi yaklaşımı bağlamında bu çalışmalar kodlanmıştır. İncelemeye dâhil edilmek için yayınlar şu kriterleri taşıması gerekmektedir: Birincisi ergen örneklemini dâhil edilmesi, ikincisi alışma değişkenlerinin psikolojik yapılardan oluşması ve son olarak da hakemli akademik dergilerde yayınlanmış olmasıdır. Söz konusu çalışmalar çalışmalar; ülke, disiplin, araştırma deseni, örneklem, örneklem büyüklüğü, örneklemin etnik kökenin çeşitli ya da tek bir kökenden olması, makalenin yayınlandığı yıl, yer verilen psikolojik yapı, data analiz metodu, sayfa sayısı, belirlenen sosyal ağ türü ve sonuçların yönü açısından incelenmiştir. İçerik analizi kategorileri bağlamında çeşitli sonuçlar elde edilmiştir. Sosyal ağ kullanımının negatif sonuçları daha sık raporlanmış olsa da çalışmalar karşıt sonuçlar sunmuştur. Konuyla ilgili daha fazla araştırmaya ihtiyaç vardır.

Anahtar Kelimeler: Sosyal ağlar, ergenler, sosyal ağ siteleri, gençlik.

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1. Introduction

Given the rapidity of new developments in communication technologies for a few decades, the unfolding of SNSs has attracted millions of people around the world. Adolescents are probably the most important population and target group for SNSs or network application developers since young people between ages 10-24 generally come first in SNSs use surveys as the most using population in terms of number (Pew Research Center Surveys, 2015). The popularity of SNSs among adolescents is fostered through their being an avenue for socialization and identity exploration for the adolescent users (Burkhart, Hoopes, & Moreno, 2017). Such an exposure to SNSs, one must consider what are the consequences and implications of this usage on behalf of adolescent population. Following a systematic database search with content analysis method, this paper presents a thorough review of current research on SNSs and adolescence to build up a synthesis of current knowledge and a clear direction for further research.

SNSs is defined as "websites permitting social interaction among users and allowing users to create online profiles that may (or may not) represent the user's real-life identity" (Correa, Willard Hinsley, and de Zuniga, 2017). Boyd and Ellison (2007) defines social networking sites as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by the others within the system. And many SNSs users do not necessarily "networking" or looking to meet new people; instead they are primarily communicating with and following people who are already a part of their extended social network. Even though the first recognizable social networking site was launched in 1997 with SixDegrees.com (Boyd and Ellison, 2007), Facebook has broken new ground since 2005 starting with one million users and now more than 1.86 billion monthly active users as of December 31, 2016, approximately 85.2% of the users being outside the US and Canada (http://newsroom.fb.com/company-info/). However, most of the research on Facebook use is done in the US and Europe with American or European adolescents even though Asian, African and Latin American countries have the most users (http://www.internetworldstats.com/facebook.htm). This incredible increase in number of users would stem from the proliferation of the Internet and communication devices like mobile phones, computers and tablets for a decade. Recently, this prolific user activity has motivated academic research to focus on the potential benefits and pitfalls of SNSs to understand its role in contemporary society as evidenced by the expanding studies in the literature. Not only Facebook, there have been launched many other SNSs like Instagram, Twitter, Youtube, Snapchat, Tumblr etc., so that increased variety would pave the way for the users to have multiple accounts in different service providers. Above all, adolescent population occupy a distinctive and special place in the case of SNSs usage in terms of developmental context.

The importance of adolescence in SNSs literature is twofold. First, as digital natives (referring to the first generations being grown up in information technology) young people are more equipped and engaged with using information technologies (Prensky, 2001). Second, the developmental task of identity exploration in adolescence period has stimulated young people to actively use SNSs as an instrument or tool to experience interpersonal relatedness and personal autonomy (Manago, 2015), to present themselves serving for individualized self-promotion as well as to be included into a group that even may not be attainable in physical reality (Cookingham & Ryan, 2015). As Chair and Werner (2013) pointed out, portable devices for communication like smartphones and tablets are very much penetrating in everyday life and function as an escape from outer world which is probably essential for the young people to feel autonomous and to create a private space. With millions of adolescent users worldwide, it raises the question of what the pros and cons of SNSs for this population are. This increasing popularity and prevalence would have attracted the researchers to study this phenomenon in a scientific manner. It has been witnessed that there are controversial results in the literature as to the impact of SNSs use on young people in the domains of social, psychological, academic, physical and emotional development. In a systematic narrative review based on 43 original research papers (Best, Manktelow, & Taylor, 2014), the benefits of using online technologies on the wellbeing of young people's mental health were presented as increased self-esteem, perceived social support, increased social capital, safe identity experimentation and increased opportunity for self-disclosure. Harmful effects were reported as increased exposure to harm, social isolation, depression and cyber-bullying. Cookingham and Ryan (2015) discussed in their mini review the impact of SNSs on the sexual and social wellness of adolescents. They highlighted the associations with low self-esteem and creation of new social norms that encourage increasingly risky behavior despite the promise of enhanced socialization, communication and education for the adolescent population. In terms of its impact on academic development, body of research is compiled up within two areas as collaborative learning or engagement into learning environment and cognitive functions related to academic achievement, with consistent positive effect on collaborative learning (ex. Evans et. Al., 2013; Won et al, 2015; Kaya and Biçen, 2016) and consistent negative effect on cognitive functions mediated through sleep quality (Vernon et al, 2015; Harbard et al, 2016). The researchers argued the importance and necessity to thoroughly investigate and understand online social networking use in a developmentally vulnerable adolescent population. Although developmental research on youth SNSs use continues to expand, more studies on the subject is needed. This content analysis study provides a holistic picture of the current trend on SNS networking and adolescence research. Accordingly,

it aims to address the issue of research on SNSs use in youth and its' consequences in an attempt to establish a connection between commonsense knowledge and the empirical research via performing a content analysis study of the related literature by overviewing and categorizing the current body of knowledge on the topic with respect to several criteria like country of origin, date, psychological construct, research methodology, data analysis and direction of the results.

2. Method

2.1. Searching Strategy

This study used systematic searching tecnique to obtain relevant research articles in reference to the research topic which was defined as SNSs use in adolescence population. Searches were performed on the following eleven databases of psychology discipline in the following order: (1) PsycINFO; (2) Education Source; (3) ScienceDirect; (4) Business Source Complete; (5) MEDLINE; (6) SocINDEX with Full text; (7) Alexander Street Press; (8) ERIC; (9) MasterFILE Complete; (10) PsycARTICLES; and (11) SPOTDiscuss with Full Text. In other words, articles from those 11 databases were automatically extracted on SNSs and adolescence in Psychology discipline. The literature review was limited to articles published from 2010 through October 2018 because the literature about the study topic in the years before 2010 was insufficient, given that SNSs is a relatively new phenomenon in academic research. Articles were obtained by searching databases through the EBSCO platform using the following search terms and logic: ("social networking site* OR "SNSs* OR Facebook* OR Instagram* OR Twitter* OR Snapchat*) AND (adolescent* OR youth* OR teenager* OR teen*) within the journal abstract and psychology discipline.

2.2. Selection Strategy

To be included in the review, publications needed to meet the following criteria: (a) inclusion of adolescent sample, (b) psychological constructs as study variables, (c) peer-reviewed academic journals, (d) availability of a full-text English copy. Using these inclusion criteria, across the databases and journals included in this study, 1026 articles were reviewed and after data cleaning process by removing 350 duplicates that have been imported from different databases and excluding 447 off-topic ones, a total of 229 studies all of which were relevant with the aim of the study were identified and subjected to full text review.

2.3. Coding Strategy

Several categories to classify research articles were generated based on representative content analysis studies. To be utilized in the process of classification of the research studies, coding criteria were determined by the researchers in accordance with the aim of the content study. Afterwards, a coding sheet was formed that included the eleven categories on which all researchers reached a consensus. The coding sheet included a space to designate the country of origin (USA, The Netherlands etc.), discipline or field (e.g., developmental psychology, counseling), research design (correlational, quantitative, cross-sectional etc.), population sample, sample size, whether ethnicity of the sample being diverse or unified, publication year, psychological construct used (the dependent and/or independent variables of the keywords or titles of the articles being related to psychology discipline), data analysis method, number of page, SNSs tools specified (Facebook, Twitter, Instagram, Youtube, Snapchat, Combination, Other SNSs, and Unspecified) and the direction of the results (positive, negative, both positive and negative, or neutral) in the study. To clarify the direction of the results better, after scanning the discussion and specifically implication parts of the studies, we looked for cues or explicit statements in which authors specified the usage of SNSs as hindering and/or promoting adolescents in various developmental areas. If no such claims were addressed, then the study was coded as neutral in terms of direction of results. In order to establish the interrater reliability, two of the authors were assigned as raters to categorize 15 randomly selected articles with respect to the criteria being set and one of the authors made the calculations. The level of intercoder reliability across each of these domains was determined by percentage values. The percentage values of agreement between three coders were changed between 70%-100%, which were thought to be quite high and powerful. For psychological construct category, the topic and content of each article were examined and categorized into codes. Then, themes (e.g. Mental and Physical Health, Cyberbullying, Self and Identity, Parental Involvement) were shaped around the emerging codes. Afterwards, authors analyzed the content of the study articles based on aforementioned criteria.

2.4. Data Analysis

Data were obtained via content analysis and descriptively analyzed by using frequencies and percentages. Two of the researchers counted frequencies seperately and calculated percentages in each category.

3. Results

The results of the study are presented in the following domains as such; descriptive findings of methodological contents (research design, sample population, sample size, whether ethnicity of the sample being diverse or unified, publication year, data analysis method, number of page, SNSs tools specified), participants' country of origin , the discipline field(s) of the study, psychological constructs used as study variables, and the direction of the effect of SNSs use (positive, negative, both positive and negative, neutral).

3.1. Methodological Contents of the Articles

To begin with research design, three subcategories were identified as shown in Table 1. In the first subcategory, results indicated that most of the studies on SNSs and adolescence utilized correlational design (f = 116, 50.65 %), followed by qualitative design (f = 43, 18.77 %), causal-comparative studies (f = 24, 10.48 %) and literature review (f = 19, 8.29 %). Other designs in that category are descriptive statistics (f = 13, 5.67 %), mixed design (f = 10, 4.36 %), and experimental design (f = 4, 1.74 %). The second subcategory of research design consisted of whether related studies were conducted in a longitudinal, cross-sectional, or sequential way or not applicable. Results showed that most of the studies were conducted in cross-sectional design (f = 181, 79.03 %). However, some of the articles did not fit into these categories and coded as not-applicable (f = 25, 10.91 %), previously mentioned as "not suitable" for any of the other subcategories in the current category. Other designs in this category were longitudinal (f = 21, 9.17 %) and sequential (f = 2, 0.87 %). In the last subcategory, whether the study was quantitative (N = 158, 68.99 %), qualitative (f = 42, 18.34 %), literature review (f = 19, 8.29 %), and mixed design (f = 10, 4.36 %) were examined.

Table 1
Methodological Contents of the Studies

Research Design 1	f	%	Research Design 2	f	%	Research Design 3	f	%	Data Analysis	f	%
Correlational	116	50.65	Cross-sectional	181	79.03	Quantitative	158	68.99	Regression	63	27.51
Qualitative	43	18.77	Not-applicable	25	10.91	Qualitative	42	18.34	ANOVA	35	15.28
Causal-comparative	24	10.48	Longitudinal	21	9.17	Review	19	8.29	SEM	29	12.66
Literature Review	19	8.29	Sequential	2	0.87	Mixed Design	10	4.36	Coding	28	12.22
Descriptive	13	5.67							Literature Review	21	9.17
Mixed	10	4.36							Content Analysis	18	7.86
Experimental	4	1.74							Others	35	15.28
Total	229	100	Total	229	100	Total	229	100	Total	229	100

In terms of sample characteristics (see Table 2), results showed that majority of the SNSs studies were conducted on high school students (f = 134, 58.51 %). It was followed by the studies with middle schoolers (f = 95, 41.48 %), university students (f = 78, 34.06 %), and unspecified sample population (f = 18, 7.86%). The result of this criterion showed that majority of the studies conducted with students (f = 191, 83.40 %), while there were also studies that were done with non-student samples (f = 12, 7.69%). Eight (3.49 %) of the studies used tweets and Facebook posts as the source of information. Besides, sample size was checked based on four categories as "between 0 and 99" (f = 40, 17.46 %), "100 and 499" (f = 77, 33.62 %), "500 and 2000" (f = 62, 27.07%), "2000 or more" (f = 20, 8.73 %), and "not specified clearly" (f = 19, 8.29 %). It can be said that most of the studies were carried out with relatively large samples.

Table 2
Sample Charactheristics of the Studies

Sample Size	f	%	Sample Population	f	%
0-99	40	17.46	14-18 (High school)	134	58.51
100-499	77	33.62	10-14 (Secondary school)	95	41.48
500-2000	62	27.07	18-24 (University)	78	34.06
2000+	20	8.73	Non-students	12	7.69
Not specified	19	8.29	Posts, tweets	8	3.49
			Not specified	18	7.86
Total	229	100			

With regards to ethnicity, we found that most of the studies were realized with unified (similar) ethnic backgrounds (f = 120, 52.40 %), but participants from various ethnic backgrounds were also taken into account (f = 79, 34.49 %), and some studies did not mention about ethnicity issue specifically (f = 30, 13.10 %). As for the years of the published articles, majority of them were released in 2016 (f = 58). It was respectively followed by studies that conducted in 2017 (f = 46), 2015 (f = 37), 2018 (f = 32), 2014 (f = 23), 2013 (f = 19), 2012 (f =7), 2011 (f = 6), and 2010 (f =1). It was seen that as years go by, parallel with the increase of SNSs usage, research on the related field has expanded.

On the criterion of data analysis method (see Table 1), studies mainly used regression (f = 63, 27.51 %). Analysis of variance was the second most frequently used analysis (f = 35, 15.28 %). It was followed by Structural Equation Modeling (f = 29, 12.66 %), and coding (f = 28, 12.22 %). These were pursued by others such as literature review (f = 21, 9.17 %), content analysis (f = 18, 7.86 %), factor analysis (f = 8, 3.49 %), path analysis (f = 7, 3.05 %), non-applicable (in cases where data analysis is not applicable; f = 4, 1.82 %;), descriptive statistics (f = 3, 1.31%), case analysis (f = 3, 1.31%), cross-legged panel analysis (f = 2, 0.87%), fMRI and neuroimage (f = 2, .87%), individual profiling (f = 1, 0.43%), longitudinal pathways (f = 1, 0.43%), non-parametric tests (f = 1, 0.43%), concept mapping (f = 1, 0.43 %), SAOMs (f = 1, .04%), and density visualization map (f = 1, 0.43%). Results indicated that there were various data analysis methods used in SNSs research done with adolescents. Further analysis such as SAOMs with RSiena (Simulation Investigation for Empirical Network Analysis) have been used to examine the use patterns of existing SNSs and determine whether SNS activity might be indicative of risk-related social norms (Huang et. al., 2014). Analysis of functional neuroimage and fMRI was done by developing a novel functional MRI (fMRI) paradigm in order to simulate an SNS (Instagram) with an aim to measure adolescents' behavioral and neural responses to "likes" as a quantifiable form of social endorsement and potential source of peer influence (Sherman et. al., 2016). Density visualization map was used to observe the effects owing to the enhanced intimacy offered by image-based (versus text-based) SNSs use (Pitmann & Reich, 2016). Consequently, wide range of analysis were used to explore the link of SNSs with adolescence in depth. In terms of number of pages, it is possible to say that half of studies were published on 6 to 10 pages (f = 113, 49.34%), while it was followed by 11 to 20 (f = 87, 37.99%), 21 and more (f = 18, 7.86%), and 1 to 5 (f = 11, 4.80%).

Different kinds of SNSs tools were utilized like Facebook, Instagram, Twitter, Youtube, Snapchat and Qzone. One hundered fifteen of the studies (50.21%) used more than one SNS, 85 (37.11%) of them chose Facebook only, 20 of them Instagram (8.73%), and 9 of them Twitter (3.93%).

3.2 Country of origin of the SNSs and adolescence researches

Country of origin was taken based on the participants' country of each study. If there was more than one country, it was coded as international. As can be seen in Table 3, nearly half of the studies were conducted in the USA (f = 68, 29.69%). It was followed by the studies which were done in Turkey (f = 20, 8.73%), Australia (f = 17, 7.42%), the Netherlands (f = 15, 6.55%) and Belgium (f = 14, 6.11%). There were 23 studies (10.04%) which included more than one country. Also, some studies took place in Canada (f = 9, 3.93%), Germany (f = 6, 2.62%), Finland (f = 2, 1.28%), Spain (f = 2, 1.28%) and Singapore (f = 2, 1.28%). Fifty-one studies (22.27%) were from other countries. These results showed that a huge amount of the SNSs and adolescence research studies were carried out in the United States. Turkey, Australia, the Netherlands and Belgium were the other countries where there has been an interest in research of SNSs and adolescence. Also, international studies earned focus on cross-cultural differences among adolescent population.

Table 3
Country of Origins

Countries	f	%
the USA	68	29.69
International	23	5.13
Turkey	20	8.73
Australia	17	7.42
the Netherlands	15	6.55
Belgium	14	6.11
Canada	9	3.93
Germany	6	2.62
Finland	2	1.28
Spain	2	1.28
Singapore	2	1.28
Others	51	22.27
Total	229	100

3.3 Discipline field(s) of SNSs and adolescence researches

As interdisciplinary research has been gaining popularity, researchers from various disciplines have been engaged in studies on SNSs and adolescence. Thus, it was hard to categorize field(s) of articles published on this area. As a solution, discipline field(s) of the studies was analyzed based on two criteria: 1) field of the first author, 2) content of each article. In this respect, since a single study could be related to more than one discipline field, 233 results were obtained from the articles.

As seen in Table 4, most of the studies were conducted on psychology discipline (f = 92, 40.17%). Also 25 studies (10.91%) were on developmental psychology, 21 of them (9.17%) on health psychology, and 30 studies on communication (13.10%). On the other hand, there were 14 (6.11%) studies which did not mention the discipline field as authors' affiliation. In the clinical psychology field, there were 12 studies (5.24%), 11 studies were on educational psychology (4.80%) while 6 studies (2.62%) were on social psychology field. In counseling, psychiatry and economy & business administration fields, there were 10 studies (4.36%). Education (f = 4, 1.74%), sociology (f = 3, 1.31%), informatics (f = 3, 1.31%), medicine, neuroscience, social work, sports psychology, pediatrics and neuropsychology (f = 2, 0.87%) were the other discipline fields. Psychology with its branches was the dominant discipline field in investigation of SNSs and adolescence researches. Communication was the other field which has examined specifically SNSs and adolescence.

Table 4
Discipline Field(s) of the Studies

Discipline field	f	%
Psychology	92	40.17
Communication	30	13.10
Developmental Psychology	25	10.91
Health Psychology	21	9.17
Unspecified	14	6.11
Clinical Psychology	12	5.24
Educational Psychology	11	4.80
Counseling, Psychiatry	10	4.36
Social Psychology	6	2.62
Education	4	1.74
Sociology	3	1.31
Informatics	3	1.49
Medicine, Neuroscience, Social Work, Sports Psychology, Pediatrics and Neuropsychology	2	1.00
Total	229	100

3.4 Studied psychological constructs in SNSs and adolescence researches

Content analysis results revealed that the most common studied psychological constructs were "mental and physical health" (e.g. depression, sleep, body dissatisfaction) (f= 65, 28.38%), "adolescents' usage of SNSs" (e.g. reasons of SNSs usage) (f = 42, 18.34%), "social relationships" (f = 23, 10.04%), and "cyberbullying" (f = 17, 7.42%). All of the studied themes of constructs are given in Table 3.5.

Table 5
Studied Psychological Constructs

Construct	*f*	*%*
Mental and Physical Health (e.g. Depression, Sleep)	65	28.38
Adolescents' Usage of SNSs (e.g. Reasons of SNSs Usage)	42	18.34
Social Relationships	23	10.04
Cyberbullying	17	7.42
Self and Identity	15	6.55
Alcohol Consumption, Gambling & Substance Abuse	13	5.67
Risk Taking and Risk of Harm	13	5.67
Well-being	12	5.24
Body Image Concerns	11	4.80
Academic Issues and SNSs	7	3.05
Civic Engagement	7	3.05
Parental Involvement	3	1.31
Neuroscience	1	0.43
Total	229	100

"Self and identity" had a frequency of 15 with a percentage of 6.55%, frequency of "alcohol consumption, gambling & substance abuse" was 13 (5.67%), "risk taking and risk of harm" had a frequency of 13 (5.67%), "well-being" 12 (5.24%), "body image concerns" 11 (4.80%), "academic issues and SNSs" 7 (3.05%), "civic engagement" 7 (3.05%), "parental involvement" 3 (1.31%), and neuroscience (0.43%). These results showed that generally both positive and negative aspects of using SNSs were investigated in the literature. In this study, the most common studied construct theme was "mental and physical health". Some of the studied constructs regarding this theme were pre-bedtime behavior and sleep problems (e.g., Harbard, et. al., 2016), diet and exercise behaviors (e.g., Vaterlaus et. al., 2015), social support (e.g., Frison, E., & Eggermont, 2015), loneliness (e.g., Yonker et. al., 2015), depression (e.g., Cavazos-Rehg et. al., 2016; Liu et. al., 2016), stress (e.g., Cavazos-Rehg et. al., 2016), self-esteem (e.g., Neira, Corey, & Barber, 2014), narcissism (e.g., Carpenter, 2012), and shyness (e.g., Laghi et. al., 2013).

3.5 Direction of results of the SNSs and adolescence researches

Direction of the results encompasses how SNSs use affects adolescents: positive, negative, both positive and negative or neutral. As seen in Table 6, most of the studies reported results that implied negative effects of SNSs on adolescents (f = 87, 37.99%). Fifty-two studies (22.70%) showed that SNSs had positive effects. Forty-seven of them (20.52%) claimed the effect of SNSs as neutral, while 43 of them (18.77%) emphasized that SNSs had both negative and positive effects on adolescents.

Table 6
Direction of Results

Direction of results	*f*	*%*
Negative	87	37.99
Positive	52	22.70
Neutral	47	20.52
Both Positive and Negative	43	18.77
Total	229	100

4. Discussion

SNSs is a multifunctional concept with noticeable effect on people (descriptive studies: e.g. reasons of SNSs usage, positive-negative ways of SNSs usage) at every developmental stage, especially in youth (Chandra, 2016). Since youth

is one of the target groups regarding being an outstanding follower of SNSs, understanding SNSs with regard to their multifaceted effects on youth is urgent. Besides, SNSs is getting more and more popular (Sherman et. al., 2016), studies on this concept might have been increasing since mid-2010s. In the current study, studies from 2010 to October 2018 were investigated in terms of several criteria. The review indicated that various concepts with different methods and research desings have been studied in the context of SNSs use and adolescents. Although the emergence of SNSs in the academic scene does not date back to a long time ago, a great deal of scientific knowledge has been compiled in eight years.

To begin with method-related criteria, it has been seen that studies were mostly designed to understand the association between SNSs usage and its' effect on youth. Due to the fact that considerable amount of the studies on SNSs were based on correlational design, results showed that quantitative research methods holds the majority (e.g., Kwan & Skoric, 2012; Jelenchick et. al., 2013). In order to enlighten phenomenological perspectives more and to gain deeper understanding, future studies might focus more on qualitative and mixed designs. Moreover, cross-sectional studies have dominantly taken place in the SNSs literature. Future longitudinal studies would more likely to unravel the course of effect that SNSs exert on adolescents.

Consistent with associational nature of most of the SNSs studies in the literature, researchers commonly used regression model, and it was followed by analysis of variance, Structural Equational Modeling, coding and literature review in order to analyze data in SNSs studies. Since the relationship between SNSs and adolescence was aimed to be predicted in general, regression could have been used most frequently. Moreover, it is understandable that why regression was the most frequently used data analysis among the SNSs studies related to psychology discipline due to its' being the foundation of data analysis and inference in the social sciences, and many contemporary statistical methods derive from the linear regression model (Berk, 2009). Structural Equation Modeling as the second most preferred data analysis method of the analyzed articles is promising in the effort to test alternative models by using robust statistical techniques and with an aim of further understanding SNSs use in adoelscence. Unconventional data analysis tools like SAOMs with Rsiena, functional neuroimage and fMRI, density visualization map have also paved the way for innovative studies on the topic.

Current study indicated that SNSs studies among youth were mostly held with students and with relatively large samples that ranged from 100 to 500 participants, which is an ideal and expected range to obtain statistically sound results. With regard to ethnicity, USA was the leading country that incorporate this dimension properly, which is also expected due to its cultural background. Besides, as for sample population, studies were mostly conducted with high school students. As Manago, Taylor and Greenfield (2012) stated that youth actively use SNSs as a tool to experience communication patterns regarding their social well-being, it is understandable to conduct most of the studies with high school and college students as they are in a developmental period in which peer-relations accelerate. Moreover, at these age groups, access to the Internet and SNSs might be easier compared to youngsters.

Regarding overall SNSs and adolescence research trends by year and type of SNSs, combination of SNSs platforms was the most studied area with more publications than any other single SNSs platform in recent years. The second and third one was Facebook and Instagram. According to a recent report, 71% of the teenage SNSs users access more than one SNSs and 24% of the adolescents are "almost constantly" online due to the widespread use and popularity of smartphones (Lenhart, 2015). As a result, most recent researchers have tended to study more than one SNS tool. While Facebook research was the strongest area with more publication than any other SNSs platform in 2013 (Snelson, 2016), this study demonstrated that although Facebook is still the most popular and frequently studied SNSs platform, combination of SNSs platforms became the most studied area now.

Country of origin results showed that a huge amount of the studies on SNSs and adolescence were conducted in the United States, even though most of the SNS users are from outside of the USA and Canada (Boyd and Ellison, 2007), dominantly from eastern countries. Turkey, Australia, the Netherlands and Belgium were also the countries where there is an interest in research of SNSs and adolescence. Adolescence population in these countries frequently uses SNSs, which prompted researchers to investigate the differential effects of SNSs usage on adolescents' psychosocial development (Shapiro & Margolin, 2014). In addition, parallel to the literature, international studies have begun to be done with an aim to explore cross-cultural differences among adolescence SNS use (Livingstone & Bovill, 2013).

In terms of discipline field(s), although psychology field with its branches was the dominant discipline in the realm of SNSs and adolescence research, there were various kinds of discipline fields endeavouring on the issue. This result is consistent with the literature which emphasizes the interdisciplinary nature of discipline fields of SNSs and adolescence researches (Snelson, 2016).

Regarding psychological constructs, the most common studied themes were "mental and physical health", "adolescent usage of SNSs", "cyberbullying", and "social relationships" respectively. Generally, it can be said that the psychological constructs underlied either positive (social support, connection with peers and adults, increased self-esteem) or negative use of SNSs (sleeping problems, cyberbullying, loneliness, decreased self-esteem). As a specific example, in the literature, technology-related before bedtime behaviors were consistently associated with shorter sleep

duration and lower sleep quality; more time spent using the Internet was associated with later bad time and shorter time in bed on weekdays and later risetime on weekends (Van den Bulck, 2004). In addition, SNSs use affects cognitive functions through sleep quality (Harbord et al, 2016). Consistent with the literature, the findings of some researches included in this study regarding the negative effects of SNSs on adolescents implied that problematic SNSs usage was associated with poor school experiences, which resulted from poor sleep habits (Vernon et al, 2015; Hökby et. al., 2016). As another example, cyberbullying is a common problem resulting from adolescents' use of SNSs, and it is significantly less stable than other forms of victimization and tends to increase slightly with time (Cole et. al., 2016). As a result, it can be assumed that negative use of SNSs can bring various problems at individual and societal levels.

On the other hand, some other articles emphasized that the popular media often characterizes Facebook, Instagram, YouTube, Twitter, etc. as places where young people engage in a wide range of unsafe activities. However, in reality, the risks of SNSs use are almost equal to the risks of most offline public activities, such as going to the mall (Agosto & Abbas, 2016). Thus, if it is used in a positive way, SNSs use can provide adolescents with an array of social, emotional, and cognitive opportunities. Indeed, adults should teach adolescents best practices and help them become educated and trust their ability to become responsible users, instead of dismissing the entire SNSs world as frivolous and dangerous (Agosto & Abbas, 2016). For example, in terms of academic development, considerable body of research, compiled up within two areas as collaborative learning or engagement into learning environment, reported consistent positive effect of SNSs integration on collaborative learning (e.g. Won et al, 2015; Kaya and Biçen, 2016).

In line with these explanations, in this study, although most of the research results demonstrated negative findings regarding SNSs use, there were many other studies which shows positive and both positive and negative findings. As a conclusion, the related researches showed that adolescents can either get various kinds of benefits or get seriously harmed by using SNSs depending on the manner they use SNSs. In terms of up-to-date SNSs studies, it is essential to understand SNSs concept and its association with youth all over the world. For the initial phase, understanding reciprocal relationship between popular phenomena, SNSs, and youth's usage of them from interpersonal and intrapersonal perspectives have been widely studied. Yet, there ares only limited prevention/intervention programs enhancing adaptive usage of SNSs among youth in reviewed articles.

As a conclusion, the current review has shown that adolescents not only take advantage of SNSs in different domains of development but also suffer from them. What matters seems to be the conscious consumption of social networking sites to the extent that they do not inhibit healthy course of psychosocial development.

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