

# Research on Social Networking Sites and Social Support from 2004 to 2015: A Narrative Review and Directions for Future Research

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## Abstract

The article presents a narrative review of scholarship on social support through social networking sites (SNSs) published from 2004 to 2015. By searching keywords related to social support and SNSs in major databases for social sciences, we identified and content analyzed directly relevant articles ( $N=88$ ). The article summarizes the prevalence of theory usage; the function of theory usage (e.g., testing a theory, developing a theory); major theories referenced; and methodologies, including research designs, measurement, and the roles of social support and SNS examined in this literature. It also reports four themes identified across the studies, indicating the trends in the current research. Based on the review, the article presents a discussion about study sites, conceptualization of social support, theoretical coherence, the role of social networks, and the dynamic relationships between SNS use and social support, which points out potential avenues for shaping a future research agenda.

**Keywords:** literature review, research agenda, social networking site, social support

## Introduction

SOCIAL NETWORKING SITES (SNSs) are web-based services that allow for creating personal profiles and making and publicly displaying personal connections within a bounded system.<sup>1</sup> Over the last decade, their use has expanded at an impressive speed. Sixty-five percent of U.S. adults were members of at least one SNS in 2015, up from only 7 percent in 2005.<sup>2</sup> SNSs offer an environment with distinct opportunities for members to exchange various types of social support. Social support may be defined as the perception or reception of coping assistance or as attributes of one's social circle,<sup>3</sup> and it has been associated with positive benefits for individual well-being. As more and more people join SNSs, the importance of these sites as an outlet for social support increases greatly. Consequently, one area of research that has gained traction in recent years involves examining how individuals use SNSs to seek, give, and receive social support.<sup>4</sup>

Given the ubiquity of SNS use in daily life<sup>2</sup> and its potentially important role in the seeking, reception, and provision of social support, a critical review of the growing literature in this area is both timely and necessary. Organizing and analyzing the past 10 years of studies can help researchers recognize trends and common themes in the current research in this area. Our review provides a starting

point for summarizing the frontiers of social support in social media research and potential avenues for pushing research in this area forward in a meaningful and efficient way. The purpose of the article is thus twofold. We first report the results of a review of articles on SNSs and social support from 2004 to 2015 to describe the current status of this literature. Then, we provide a critique by discussing the current scholarship in furthering our understanding of social support on SNSs and providing recommendations for future research. To begin, we will define SNSs and social support.

## Defining SNS and social support

The acronym SNS first appeared in Boyd and Ellison's<sup>1</sup> original work on social network sites, defined 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 others within the system." (p. 211). Boyd and Ellison<sup>1</sup> made a distinction between "social network site" and "social networking site" such that "network" emphasizes a representation of one's offline social network, while "networking" emphasizes relationship initiation between strangers. SNS is a fast-changing phenomenon and its essential service functions

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have been integrated to various web-based applications designed to maintain existing connections (e.g., Facebook) and create new connections (e.g., online health SNSs<sup>5,6</sup>). Therefore, in this study, SNS refers to all web-based services that allow for creating personal profiles, making and publicly displaying personal connections within a bounded system.

With regard to social support, definitions typically center on either structural or functional aspects of the concept.<sup>3</sup> Structural definitions of social support concern the nature of individuals' social networks. Functional definitions of social support typically focus on either perceived support availability or enacted support. Perceived support availability is defined as the extent to which an individual believes that support is available from his or her network if needed, whereas enacted support is actual supportive actions provided or received.<sup>7</sup> Functional definitions of social support are often further delineated into the perception or reception of discrete forms of social support such as emotional, informational, esteem, tangible, and network support.<sup>8,9</sup>

### Method for Literature Review

To identify relevant research for inclusion in the present study, we searched EBSCO, ProQuest, Communication and Mass Media Complete, and Google Scholar using keywords "social support," in conjunction with (a) "social networking (network) sites (service)," (b) "online social network," or (c) specific SNS platforms, including "Facebook," "Twitter," "LinkedIn," "Pinterest," and "Instagram," in the title or abstract. The specific SNS platforms selected represent the most commonly used SNS among online adults.<sup>10</sup> Search engine features were used to focus the search on two inclusion criteria: publication year (January 1, 2004 to December 31, 2015) and publication type (i.e., peer-reviewed journal articles). Among the 486 articles that resulted from the search, 237 articles were excluded because their abstracts contained either "social support" or "social networking sites" and its variants, but not both terms. Based on a review of full texts, another 153 articles were excluded because those studies focus on Web sites that do not feature a social networking function. The examples of excluded sites are online forums solely in the form of Q&A. The exclusion process resulted in a total of 88 articles included in the review.

To create an initial coding scheme, we followed foundations of behavioral research<sup>11</sup> to identify key features of studies such as theory usage, conceptualization, methodology, and measures. Using procedures outlined by MacQueen et al.,<sup>12</sup> the coding scheme provided instructions on inclusion and exclusion for each category of the key features. The unit of coding is each article. The coding scheme comprised theory-based coding categories as well as empirically driven coding categories. For example, for the presence of specific social support conceptualization, the three categories were derived from Barrera's<sup>13</sup> conceptual piece on social support, including characteristics of social networks, perceived social support, and enacted social support. For other features such as specific theories used, coding categories emerged from the data and were refined through the coding process. The coding scheme is included in Supplementary Table S1 (Supplementary Data are available online at [www.liebertpub.com/cyber](http://www.liebertpub.com/cyber)).

Two independent coders coded five articles randomly selected from the 88 articles to establish intercoder reliability.

After two rounds of coding, all coders reached an acceptable intercoder reliability (Cohen's Kappa ranged from 0.84 to 0.86 across all variables in the coding scheme). They then independently coded the remaining articles with an overlap of 10 (13 percent) to assess the final intercoder reliability (averaged Cohen's Kappa was 0.88; absolute agreement reached: 96 percent). Coders resolved any disagreements through discussion.

### Results

From 2004 to 2015, there were an increasing number of publications on SNSs and social support. Facebook remains the most studied SNS (53.41 percent) in this body of literature, followed by Twitter (10.23 percent). We found that empirical studies have dominated the existing literature on SNSs and social support. Among the 88 articles, 54 studies involved inferential statistical analysis, 33 studies were primarily descriptive, and only one article was a conceptual piece. Journals that publish work on SNSs and social support represent various disciplines, including human-computer interaction, medical science, communication, psychology, and education.

#### *Theoretical and methodological preferences*

Thirty-eight articles explicitly referenced a theoretical framework. Categories for theoretical framework were developed inductively. In total, 23 different theoretical frameworks were discussed. Theories that were referenced in more than one article included the following: social cognitive theory<sup>14</sup> ( $n=10$ ); the stress-buffering model of social support effects<sup>15</sup> ( $n=4$ ); optimal matching models of support<sup>16</sup> ( $n=4$ ); social capital theoretical frameworks<sup>17</sup> ( $n=4$ ); the theory of planned behavior<sup>18</sup> ( $n=5$ ); uses and gratifications theory<sup>19</sup> ( $n=3$ ); and the main effects model of social support<sup>15</sup> ( $n=2$ ). Remaining theories stemmed from studies of communication<sup>20</sup> (e.g., the hyperpersonal model);<sup>21</sup> social psychology<sup>22</sup> (e.g., social exchange theory); as well as others (e.g., transaction cost theory<sup>23</sup>). Articles were also coded for the role of theory using three predecided categories: study framed by theory (71.1 percent); study testing theory (13.2 percent); and study expanding theory (10.5 percent).

A number of trends in methodological approaches emerged in this review. Categories were developed a priori. First, studies using quantitative methods represented the majority of studies (76.1 percent), while only a small proportion relied on qualitative (12.5 percent) or mixed methodologies (11.3 percent). Commonly used methods were surveys (43.2 percent), content analysis (21.6 percent), and a combination of methods (20.5 percent). Very few studies in our sample relied on social network analysis, experimental designs, or randomized control trials. In terms of studies that used sample comprised of human subjects,<sup>a</sup> half the studies used samples of populations other than college students. Table 1 summarizes theoretical and methodological preferences in the reviewed articles.

#### *Conceptualization and operationalization*

Fifty-one studies included measurement of SNS use; of these, eight included multiple measurement types. Coding categories for SNS measurement were developed a priori; additional categories were added during coding. Twenty-one

TABLE 1. SUMMARY OF THEORIES AND RESEARCH METHODS OF THE REVIEWED ARTICLES ( $N=88$ )

	<i>Content feature</i>	<i>Categories</i>	<i>Frequency (percent)</i>
Theory	Theory mentioned	Yes	38 (43.2)
		No	50 (56.8)
	Theory purpose	Theory application	27 (30.7)
		Theory testing	5 (5.7)
		Theory development	4 (4.5)
		N/A	52 (59.1)
Methodology	Specific methods	Surveys	38 (43.2)
		Content analysis	19 (21.6)
		Interviews	6 (6.8)
		Experiments	2 (2.3)
		Randomized trials	2 (2.3)
		Social network analysis	1 (1.1)
	Sample	Multiple methods	18 (20.5)
		College students	30 (34.1)
		Others	44 (50.0)
		N/A	14 (15.9)

articles (41.2 percent) used self-reported intensity of usage of a SNS.<sup>24</sup> These studies measured attitudinal questions regarding the extent to which a SNS is integrated into one's daily life, and/or self-reported duration (e.g., years of membership), the amount (e.g., time spent), and/or the frequency of SNS use. The next most commonly used measurement of SNS use focused on communication behaviors performed through SNSs (31.4 percent), including eliciting social support, seeking health information, and posting and interacting with others on a SNS. Other studies relied on server-logged data about SNS use, in general or with specific applications (29.4 percent). Six studies (11.8 percent) involved experimental manipulations of SNSs, including using a SNS as an intervention component, and manipulations of profile elements.

Just over half (53.4 percent) of the reviewed studies provided a clear conceptualization of social support. Specifically, these studies included an explicit statement that delineated how social support was defined and specified if a certain form of social support was under examination. Categories of social support were developed from existing literature.<sup>3</sup> Of the studies that defined social support, enacted social support (i.e., actual supportive behavior) represented the type most commonly studied conceptualization (51.1 percent), followed by studies that examined multiple forms of social support (21.3 percent) and perceived social support (14.9 percent). Characteristics of social networks were less commonly used to conceptualize social support within this body of work.

Seventy-two studies included at least one measure of social support; of these, 15 included multiple measurement types. These categories were developed inductively and deductively. Thirty studies (41.7 percent) included a measure of perceived social support, or support that is perceived to be available. Actual support behavior was assessed in articles using two methods: content coding of interview or online communication for instances of support exchanged (30.6 percent) and/or self-reports of received support (19.4 percent). Four (5.6 percent) assessed characteristics of participants' social networks, such as network size. Of the 52 studies that included both an explicit conceptualization of

social support and at least one measure of social support, most ( $n=35$ ) exhibited correspondence between the conceptualization and measure. Ten studies exhibited a mismatch; that is, social support was conceptualized in one manner but measured in another (e.g., social support was conceptualized as perceived availability but measured as support seeking).

In terms of study analyses, most studies tested the role of SNSs as the independent variable (47.1 percent) while treated social support as a dependent variable (27.8 percent). Although most studies (55.6 percent) reported at least one significant finding relating SNSs and social support, a good portion of studies (22.7 percent) did not report an effect size. Table 2 summarizes measurements and roles of SNS use and social support in the reviewed articles.

### *Thematic patterns*

To identify major themes of studies on SNS use and social support, thematic analysis was conducted following procedures detailed by Braun and Clarke.<sup>25</sup> After becoming familiar with the purposes and results of each study, the first three authors generated an initial list of categories to organize the data into meaningful groups. Then, the three authors independently searched for overarching themes by sorting different meaningful groups under potential themes and collating all the relevant data within the identified themes.<sup>25,26</sup> The authors then examined the overlap between themes across their searches and refined thematic categories through consensus. After the process of thematic refinement, four themes remained (see Table 3).

The first theme identified involved recognition that people use SNSs as important channels to solicit social support of various forms. Of the 88 articles, 53.4 percent described how people utilize SNS for social support. These studies reported descriptive results about seeking social support as a motivation of using various SNSs,<sup>27</sup> the prevalence of support groups on SNSs,<sup>28</sup> and the extent to which individuals seek social support through SNSs under various circumstances such as having diseases and being stressed.<sup>28,29</sup> Of these articles, 53 percent focused on or involved identifying major types of social support by coding content exchanged through

TABLE 2. SUMMARY OF MEASUREMENTS AND ROLES OF SOCIAL NETWORKING SITE AND SOCIAL SUPPORT

	<i>Content feature</i>	<i>Category</i>	<i>Frequency (percent)</i>
SNS ( <i>n</i> = 51)	Measurement	Self-reported intensity of usage of SNSs	21 (41.2)
		Communication behaviors performed through SNSs	16 (31.4)
		Server-logged SNS use in general or use of specific applications	15 (29.4)
		Experimental manipulations of SNSs	6 (11.8)
		Self-reported motivations of SNS use	4 (7.8)
	Role	Intention of continued SNS use	2 (3.9)
		Independent variable	24 (47.1)
		Dependent variable	3 (5.9)
		Mediator	3 (5.9)
		Covariate	3 (5.9)
		Multiple roles	11 (21.6)
Social support ( <i>n</i> = 72)	Measurement	N/A	44 (86.3)
		Perceived social support	30 (41.7)
		Content coding of support exchanged (enacted social support)	22 (30.6)
		Self-reported received support (perceived enacted social support)	14 (19.4)
		Self-reported motivations for seeking online social support	6 (8.3)
		Self-reported social support seeking behaviors	5 (6.9)
	Role	Characteristics of social networks	4 (5.6)
		Self-reported intentions to provide online social support	2 (2.8)
		Dependent variable	20 (27.8)
		Independent variable	12 (16.7)
		Mediator	6 (8.3)
		Covariate	2 (2.7)
		Multiple roles	13 (18.1)
		N/A	35 (48.6)

Note: The percentages of measurement add up to greater than 100 percent due to the studies involving multiple measurement types. SNS, social networking site.

SNSs.<sup>30</sup> For example, Rui et al.<sup>31</sup> conducted a content analysis on tweets exchanged and categorized their supportive functions. These studies generally found evidence that individuals commonly exchange emotional, informational, and esteem social support through SNSs, with informational support the most prevalent support type sought and provided.

The second theme involves the effects of SNS on outcomes achieved through social support; 35.2 percent of the reviewed articles focused on this theme. Outcomes included psychological well-being,<sup>32,33</sup> health self-efficacy,<sup>34</sup> life satisfaction,<sup>35</sup> and physical illness and depression.<sup>4</sup> Most results indicated that spending more time on SNSs, having more friends online, or using various features of SNSs positively predicted one's perceived and received social support, which, in turn, led to reduced stress and enhanced physical and psychological well-being.<sup>4,36,37</sup> Among these studies, some emphasized that users must be actively engaged, rather than passively engaged in SNSs to gain social support benefits. For instance, only active communicators on a Facebook page showed high levels of received social support,<sup>38</sup> whereas passive Facebook use led to decreased affective well-being over time.<sup>39</sup> Other studies pointed out that the

effects of SNS use on social support and other outcomes vary by individual differences; for example, those high in shyness or social anxiety were more likely to gain benefits from social support provided through SNSs.<sup>40,41</sup>

A third theme concerned the 6.8 percent of reviewed articles that focused on antecedents, other than SNS use, of social support seeking, provision, and reception on SNSs. These studies found that individual characteristics such as having little social support from online friends, lower family interaction, and being narcissistic positively predicted online interaction for social support.<sup>42</sup> Moreover, certain message features, including the use of family and prayer in root posts, popularity of a Facebook group page, and high levels of self-disclosure, also invited more supportive responses.<sup>43</sup>

The last theme recognizes that 4.5 percent of the reviewed articles utilized SNSs as a communication platform in health interventions. The intervention group typically involved a Facebook group wherein participants could exchange social support with their peers, while the control group did not have access to social support through SNSs. Three out of four such studies did not find a significant advantage of the intervention group in enhancing perceived social support or physical

TABLE 3. SUMMARY OF THEMATIC THEMES (*N* = 88)

	<i>Theme description</i>	<i>Frequency (percent)</i>
Theme 1	Description about how people use SNS for social support	47 (53.4)
Theme 2	Effects of SNS use on outcomes through social support perceptions	31 (35.2)
Theme 3	Antecedents, other than SNS use, of support seeking, provision, and reception of SNSs	6 (6.8)
Theme 4	SNSs as an tool for social support intervention	4 (4.5)

activity when compared with control groups. This included a Facebook group wherein participants could interact with their existing social ties and an education-only Facebook group.<sup>44–46</sup>

## Discussion and Directions for Future Research

The growing research on SNS use and social support in the past 10 years has garnered interest from scholars across a diverse range of fields; computer-mediated human interaction, medical science, and communication are the top three fields that have published related work. Our review indicates that social support processes play out through social networks in addition to traditional face-to-face channels. In the discussion that follows, we focus on five recommendations derived from our review: (1) diversification of study sites; (2) better conceptualization of social support; (3) enhanced theoretical coherence; (4) explication of the role of networks; and (5) exploration of the dynamic relationship between SNS use and social support.

### *To diversify study sites*

As the most popular SNS,<sup>10</sup> Facebook remains the most studied site, although a slightly increasing number of studies have focused on Twitter in recent years. The reliance on a few specific SNS brands raises concerns about generalizability of results to other brands.<sup>47</sup> A number of studies have demonstrated that users of different SNS brands vary in their demographic characteristics and SNS usage such as information-sharing practices.<sup>47,48</sup> The prevalence of Facebook as the study site may privilege a particular group of people and cultural practices. Additional research is needed outside of Facebook to provide a more complete understanding of the uses and effects of SNSs for social support. Studies of other SNSs can increase our knowledge about groups of people not that active on Facebook (e.g., teens on snapchat<sup>49</sup>), social support enabled through different forms of communication (e.g., visual content on Instagram<sup>50</sup>), and through social networks consisted of less trusting relationships than on Facebook.<sup>10</sup> As such, we encourage future research on diverse study sites.

### *To clearly conceptualize social support*

The current review revealed that nearly half of the articles did not provide a clear conceptualization of social support. Conceptualizations of social support are important, given the broad range of what is considered “social support” in the extant literature. Furthermore, differing conceptualizations of social support imply different theoretical explanations for its role in relationship to SNSs. Structural definitions of social support are often used to posit direct effects of social support; for example, having a dense social network is predicted to be associated with well-being, regardless of stress. Functional definitions, however, often are paired with theoretical assumptions that the purpose of social support is to buffer the recipient from the harmful effects of stress on well-being.<sup>3,51</sup>

Clearly, conceptualizations of social support have implications for future research examining social support sought and provided through SNS. For example, researchers might consider whether it is beneficial for individuals to collect a

large number of social contacts through SNS (a structural conceptualization) or if it is more beneficial to receive a high degree of actual support from individuals through SNS (a functional conceptualization). Without clear conceptualizations of social support, it is unclear how it is connected theoretically and pragmatically to SNS usage. Future research in this area should seek to explicitly and clearly define social support and the expected theoretical mechanisms by which it should have its effects.

### *To enhance theoretical coherence*

Results of our review indicate that fewer than half of the articles explicitly referenced a theoretical framework. Specific theoretical frameworks included the two overarching theoretical perspectives that inform most traditional social support literature<sup>3</sup> (i.e., the main effects and the stress-buffering models); theories that stem from the computer-mediated communication literature<sup>20</sup> (e.g., the hyperpersonal model, weak tie theory); as well as other theoretical models less directly tied to one of these bodies of literature (e.g., social cognitive theory; the theory of planned behavior). Within the 38 articles that explicitly referenced a theoretical framework, 23 specific theories were mentioned, suggesting a lack of coherence in theorizing relationships between social support and SNS. The choice of specific theories should be made thoughtfully. Future research should carefully consider the theories utilized and their relevance to the context.

The lack of theoretical coherence may be partially due to the primary purpose of using theories as guiding frameworks in this body of literature. Most studies that were coded as utilizing theory did not actually test theoretical propositions in the context of social support and SNS usage. The studies may lose the opportunity to test core theories from social support literature in a different communication environment than face-to-face<sup>52</sup> or the classic cues-filtered-out computer-mediated context.<sup>53</sup> They may also lose the opportunity to discover new variables rooted in the SNS environment that could violate basic assumptions or modify asserted propositions of existing theories. Future research should be explicitly theoretically grounded so that broader meaning can be drawn from individual studies regarding relationships between social support and SNS usage.<sup>54</sup>

### *To explicate the role of networks*

Forming and displaying one’s social networks are the exceptional affordance that has made SNSs valuable since their birth.<sup>55</sup> Social networks are the structure of the direct and indirect relationships in which individuals are embedded.<sup>56</sup> The examination of the role of networks in connecting SNS use and social support may be a unique contribution to the extant literature. Relatively little research has investigated the relationships between network structures and social support outcomes or defined social support from a structural perspective beyond network size. Most of these studies did not collect network data from users. Eight studies (9 percent) measured number of friends or followers,<sup>57</sup> and only two articles (3 percent) examined network structure as a predictor of perceived and received social support. For instance, Chen and Shi<sup>58</sup> studied the impact of reciprocity in dyadic relationships on types of social support exchanged. Given that

individual actors are interdependent units and that relational ties between individual actors are channels to transmit support resources.<sup>59</sup> future research is encouraged to explicate the theoretical role of networks in relation to social support and leverage digital traces on SNSs to collect network data of users.

Specifically, future research should pay more attention to underappreciated network structures that are *not* based on dyadic relations. Supportive relations are typically treated as two-person exchanges, looking only at characteristics of the relationship between a focal individual and a supporter.<sup>59,60</sup> The characteristics of such a dyadic relation may include reciprocity, frequency of contact, and relational content such as spouse, friend, or coworker.<sup>56</sup> However, social networks are more than bundles of two-person exchanges. The structural characteristics of networks affect the flow of supportive resources.<sup>60</sup> For example, Manago et al.<sup>35</sup> found significant influence of network composition (i.e., proportion of close friends and strangers) on perceived online social support. Therefore, we recommend investigating the roles of network properties that are not based on dyadic relations. These may include multiplexity, homogeneity, transitivity, and the structural holes of an individual's personal network, as well as an individual's structural position in the entire network, such as betweenness and closeness centrality. These network properties have been documented to be associated with trust in and norms of resource exchanges,<sup>61</sup> opportunities, and constraints on resource availability.<sup>60</sup>

#### *To explore the dynamic relationship between SNS use and social support*

In the case of inferential studies reviewed, social support is primarily treated as a dependent variable, while SNS use is used as an independent variable. Several studies examine social support and SNS in multiple roles, which may be viewed as a strength, given the potentially complex interplay of these concepts. This complexity underlying how these concepts relate to each other points toward one critical gap in research examining the direction of influence between social support and SNSs. Currently, it remains unclear as to whether SNS impacts social support or its determinants, or if social support shapes use of SNSs, or both. In a similar vein, there is a dearth of research considering intermediary variables that may partially explain how these concepts relate to one another. The exploration of the flow of causal influence between these concepts may help inform future research as to the appropriate roles these concepts may assume in the context of inferential research, as well as offer insight into which populations may benefit from SNS-based interventions. Longitudinal data are helpful for interpreting the results of psychological and relational impacts, and they are needed to conclusively establish the temporal order to improve causality inference. Identifying any patterns in which these concepts exert joint effects on other variables would also be of additional interest. Future research may examine the conditional effects of social support and SNSs on outcomes relevant to this line of research.

#### *Limitations*

The current review has a few limitations. First, although generic terms, including “social networking (network) sites

(service)” and “online social network,” were used as key words in the literature search, specific SNS platforms used in searches were limited to the most popular sites.<sup>10</sup> There is, then, a possibility that studies of social support on other specific SNSs were not included in the search results. However, even some popular sites, including “Pinterest” and “Instagram,” were not used as study sites in this body of literature.<sup>b</sup> Therefore, the results in this review are likely to be fairly comprehensive. Second, as SNS is a fast-changing phenomenon, technological features of SNSs and people's usage patterns may evolve and differ from what has been examined in the current scholarship. Measurement of SNS use and social networks formed on such SNSs may be subjective to changes. Improved measurement of SNS use and integration of the network perspective into theoretical coherence will help discover regularities in the phenomenon of social support across SNSs. Third, the current review is limited to English-speaking SNSs and misses international sites. Future research is encouraged to examine whether different themes of studies emerge, given different cultural contexts.

#### Notes

a. A human subject is as a living individual about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual or (2) identifiable private information. Studies that used content analysis without interacting with individuals or identifying any private information of individuals were not considered human subject research.

b. The current search only focuses on published journal articles. One dissertation in 2016 studied social support on Pinterest, suggesting that additional published journal articles will appear in the future.

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