Social networking sites usage & needs scale (SNSUN): a new instrument for measuring social networking sites’ usage patterns and needs

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ABSTRACT
Numerous measures of SNSs use have been found in the literature. However, the bulk of existing instruments measure either usage patterns or needs gratifications. What remains lacking is an instrument that integrates both dimensions of SNSs usage patterns and needs. The current study addresses this gap by presenting an integrated instrument that measures both SNSs usage patterns and interrelated dimensions of SNSs needs, namely: diversion needs, cognitive needs, affective needs, personal integration needs, and social integration needs. This instrument is specifically validated for populations in a developing country as exemplified by Pakistan, a research context lacking in validated instruments.

Development and validation of the instrument were conducted in two phases: (1) expert validation of questionnaire (2) instrument convergent validation. Six researchers with related expertise, internationally and from Pakistan, provided input in the expert validation phase. Next, structural equation modelling (SEM) was performed on the results of an online survey in Pakistan (n = 162). Results returned five dimensions of SNSs needs (i.e. diversion, cognitive, affective, personal integration and social integration), with 18 items showing high reliability (α = .922) and strongly correlated within and between dimensions. Based on demographic data analysis, the instrument is validated for male and female young adult urban residents with middle and higher socioeconomic status.

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Introduction
Although SNSs (Social Networking Sites) research began in the middle of the 1990s (Khang, Ki, & Ye, 2012) but the research article by Donath and Boyd’s (2004) revolutionized the SNSs research by introducing the term ‘social media’ and referred to ‘Internet-based tools that are founded on the principles of Web 2.0’ (van Osch & Coursaris, 2014). Since
last decade, the widespread use of SNSs (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015) gave rise to academic publications and empirical inquiries supported ever-increasing phenomena of SNSs (Ellison, Steinfield, & Lampe, 2007; Olufadi, 2015; Panek, Nardis, & Konrath, 2013).

In global perspective, the SNSs research, at one side focused on effects, i.e. negative and beneficial effects (Best, Manktelow, & Taylor, 2014; Echebur & del Corral, 2010) and on other side, explored changing patterns of SNSs use in terms of ‘access, frequency, intensity and motives’ (Duggan et al., 2015; Ellison, Steinfield, & Lampe, 2011; Junco, 2012; Mehmood, 2013; Ross, Orr, Sisic, Arseneault, & Simmering, 2009). In documenting the uses of SNSs, mostly studies utilized ‘uses & gratification’ theoretical and conceptual propositions which give better understanding ‘why audience use the media’? (Katz, Blumler, & Gurevitch, 1973).

Due to sporadic use of SNSs, scholars studied its application in different fields (Jenkins-guarneri, Wright, & Johnson, 2013), like education, health, gender, business, politics and social development (Aral, Dellarocas, & Godes, 2013; Eid & Al-Jabri, 2016; Korda & Itani, 2013; Loader & Mercea, 2011; Tess, 2013; Wolfsfeld, Segev, & Sheafer, 2013). Therefore, scholars kept exploring and developing SNSs use and need measurements.

Despite increasing use and academic studies, inconsistency in methods, theoretical concepts, and topics still exist due to infant stage of SNSs academic research and lack of theoretical knowledge sharing for analysis (Khang et al., 2012; van Osch & Coursaris, 2014). Particularly, in developing countries, interest is emerging in SNSs research (Stendal, Thapa, & Lanamaki, 2016) and reported higher use of SNSs in developing countries.

The developing countries are mostly defined as low-income countries, the prevalence of poverty, gender disparities and traditional cultural. Hofstede (2011) stated that ‘culture distinguish people from each other’ and Kluckhohn (1963) defined culture as ‘influential force which shapes human behaviour, relation, and desires’. Therefore, different SNSs studies conducted in cross-culture context identified variance in uses, motives and online behaviour. Vasalou, Joinson, and Courvoisier (2010) concluded that ‘intention for using Facebook, use and time’ were determined by culture. A comparative study between Korea and USA identified the difference in SNSs motives, Korean sample was found inclined towards ‘social support and social relations’ and Americans were using for ‘entertainment’ (Kim, Sohn, & Choi, 2011). In continuity, further Jackson and Wang (2013) reported cultural difference than personal characteristics in SNSs use among American and Chines. American respondent ‘valued SNSs more for friendship than Chines’.

However, scholars developed numerous SNSs measurements but by considering cross-cultural concerns, the current instrument measured use and needs of SNSs according to recent trends and accessibility in Pakistan; and tried to eliminate such limitations.

**Social networking sites (SNSs) definition**

Although, there is no clear definition of ‘social networking sites’ and alternatively used the term ‘social media’, due to the different language used in defining them in academia and practice (Wolf, Sims, & Yang, 2018). Social media, social networking sites
SNSs and social media sites are commonly used terms for online interaction and networking (Kapoor et al., 2018; Oestreicher-Singer & Zalmanson, 2013). Despite allowing users to create a profile and comments, not all the sites are SNSs. Boyd and Ellison (2007) distinguished SNSs on three features, ‘(1) a user-constructed public or semi-public profile, (2) a set of connections to other users within the system, and (3) the ability to view one’s own list of connections, as well as connections made by others in the system’.

A revised and broader definition was presented again after excessive use by masses, as

communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-level data, 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site. (Ellison and Boyd, 2013)

Facebook, Twitter, LinkedIn, MySpace are a few examples of social networking sites and worldwide almost 30 social networking sites are functional (Sørensen, Porras, Hajikhani, & Hayar, 2014).

**SNSs measurement**

The available literature provides numerous SNSs scales which categorically measured use in terms of duration, number of friends and contacts, activities and motives. Below a brief description of highly cites SNSs scales is given on the basis of duration, activities, and motives which contributed to SNSs research.

**Time duration measurement**

The duration of SNSs is measured in terms of frequency and access which included time measurement (number of minutes and hours for using SNSs in interval categories, like 30–60 min), time spent on SNSs per day (in minutes) and use on daily, weekly and monthly basis (Ellison et al., 2007; Junco, 2012; Mehmood, 2013; Olufadi, 2015; Pempek, Yermolayeva, & Calvert, 2009; Ross et al., 2009).

**Activities measurement**

Scholars grouped functionalities of SNSs in to ‘activities’ such as ‘electronic interactions which included posting and commenting; voyeuristic activities which refer to ‘lurking’ and ‘stalking’; self-presentation activities like revealing personal information, interest and attitude and lastly the ‘game’ activities which included online playing games and quizzes (Yang & Brown, 2013). Johnson, Faraj, and Kudaravalli (2014) enlisted 28 activities; Pempek et al. (2009) documented 25 activities; Junco (2012) defined 14 activities of the list.

**SNSs motives measurement**

To identify the motives of SNSs use, numerous validated and reliable scale exists in the literature.
| Author & year                  | Participants | Age         | Motives                                                                 | Response format | Method      |
|-------------------------------|--------------|-------------|-------------------------------------------------------------------------|-----------------|-------------|
| Brandtzaeg and Heim (2009)    | N = 1200     | 16–29 years | New Relations, Friends, Socialization, Information, Debating, Free SMS, Time-killing Sharing/consuming content, Unspecified fun, Profile surfing & Family | Open            | Questionnaire |
| Descriptive statistics        |              |             |                                                                         |                 |             |
| Pornsakulvanich and Dumrongsin (2013) (Thailand) | N = 451     | 15–58 years | Pass time, entertainment, relaxation, friendship maintaining relationship & to be in trend information, enjoyment, social, mood regulation, pastime and conformity | 5-point Likert Scale | Descriptive and inferential statistics |
| Shi, Luo, Yang, and Liu (2014) (Korean) | N = 464     | 17–25 Years | Information seeking, personal utility and convenience. Social interaction, documentation, diversion, self-promotion, and creativity | 6-point Likert Scale | Inferential statistics & CFA |
| (Al-Menayes, 2015) (Kuwait)   | N = 1327     | 18–25 years |                                                                         | 5-point Likert scale | Inferential statistics & EFA |
| (Huang & Su, 2018) (Taiwan)   | N = 307      | 12 and 24 years |                                                                         | 5-point Likert scale | Descriptive and inferential statistics |
| (Gupta & Bashir, 2018) (India) | N = 420     | 21–23 years | Academic; Socialization; entertainment and informativeness.              | 5-point Likert scale | Inferential statistics & CFA |

These empirical studies which contributed to SNSs measurement were mainly conducted in democratic, advanced countries with a high level of education and technology use like, Europe, USA, Norway, Korea, and Thailand. This contribution by authors provided a deep insight into SNSs usage patterns and trends. Although motives indicated by these studies similar in apparent meaning SNSs use behaviour and routine varied in their according to the social, political and economic situation (Jenkins-guarnieri et al., 2013). Furthermore, there is no ‘universal’ index to measure the duration of use and most of the study focused on ‘either one or two SNSs’, most specifically ‘Facebook’ (Joinson, 2008; Junco, 2012). Duggan et al. (2015) found that two and more SNSs were used by people, therefore, focusing on one SNS is problematic.

**Background of the current study**

A study based on nine European countries in 2013 reported diverse social, technological and cultural factors which contribute in acceptance of new media technologies and their uses (Hasebrink, Jensen, Van Den Bulck, Hölig, & Maeseele, 2015). Therefore, validity and reliability of these scales raise concerns and questions while utilizing in developing countries which experience low literacy rate, unstable political situation, deteriorating economy, traditional social structure and low access to digital technologies (Chuang & Schechter, 2015). Although, a survey by Pew Research Centre found excessively growing use of SNSs in developing countries and digital divide between developed and developing countries is getting narrower. Therefore, it is imperative to test empirically the growing use of SNSs and validate an instrument to measure duration, needs, and motives for SNSs use in developing countries and in their social context. Like other developing countries, rapid adoption of
technologies, such as smartphones and SNSs is observed in Pakistan (Tariq, Tariq, Hussain, & Shahid, 2018).

Pakistan, the country with 197 million population has 44.6 million internet users which 22% of the overall population and 35 million are active SNSs users. Among social networking sites, Facebook ranked at the top with 92% users.

Being a developing country, Pakistan is an emerging economy and ranked among the top ten Internet economies of the world. The privatization of the telecommunications industry in Pakistan resulted in the rapid growth of the internet in the past decade (Ahmad, Mustafa, & Ullah, 2016). Affordable internet packages are introduced due to rising competition among telecommunication companies. Therefore, the penetration of internet usage is increasing due to the affordability and accessibility of the internet. In Pakistan, SNSs use is growing for informational, communication and social purposes; and the ratio of non-users is dwindling (Saleem, Malik, Ali, & Hanan, 2014). In Pakistan, SNSs is excessively used by youth (Eijaz, 2013), specifically between 18 and 24 years of age. SNSs was also used for political purposes (Jamil, 2018) and its application and effects on living standards and online business opportunities were also observed (Rehman, Irem, & Ilyas, 2014).

Keeping this in view the latest trends of social media use in Pakistan, the current study aims to develop and validate an instrument which records the growing use of SNSs, frequency, and duration of use, widely used social networking sites and needs which are gratified through SNSs use in Pakistan.

According to the researcher’s knowledge and rigorous literature study, no SNSs use scale, focused on usage patterns and needs, was developed in Pakistan but few studies adopted and validated scales in Pakistani context and identified motives for SNSs use. Mirani (2011) identified find old friends, maintaining their existing offline relations, pass time and entertainment motives among students. Another study adopted Rubin’ Interpersonal Motives Scale (IMC) and differentiated motives on the basis of gender, ‘relaxation’ motive was found dominant among females whereas ‘control’ and ‘inclusion’ were reported among male (Shabir, Iqbal, & Safdar, 2014). Ali (2016) suggested five motives, such as ‘making new friends, finding old friends, communicate with existing friends, interaction with people with common interests and pass time.

Limitation of previous studies

There are few limitations of previous studies, such as the main population of these studies comprised of young people, like college and university students, therefore, a wide range and variation in motives couldn’t be listed. Other limitations of these studies were the specific location of study, limited sample size, and low response rate; therefore, the findings couldn’t be generalized. These studies also relied heavily on established scales and mixed methodologies were not adopted to further extend research in SNSs uses, specific to the socio-political context of Pakistan. Furthermore, these studies couldn’t record growing use of SNSs in terms of time, SNSs preference and preferred device. The used scales were adopted or adapted from different sources and there is no one composite scale measuring patterns and needs together.
**Current study**

After evaluating the gaps in previously scales, the current study aims to develop and validate an instrument measuring both usage patterns (frequency of duration, SNSs preference, device) and SNSs needs. Further, the population and context of the current study are developing country where social media use is growing. The study will provide a comparative view in a cultural context. The study integrated ‘usage patterns’ and ‘needs’ in a separate section independently in a low-income country but on one scale.

**Theoretical framework**

The theoretical framework of the current study was grounded in ‘Uses & Gratification Theory (U&GT)’ (Katz et al., 1973) which explains ‘social and psychological’ needs for media use. Since the initial core assumptions of U&GT were based on ‘active audience, goal-oriented use, and needs’, therefore, it was considered safe to utilize U&GT in new communication technologies perspectives. With the availability of multiple media channels and choices, motivation and satisfaction become even more crucial components of audience analysis (Ruggiero, 2000) and scholars believed that U&G research is more empirically associated with internet (Johnson & Kaye, 2004; Lin & Lu, 2011; Weiser, 2002), because of the Internet’s media-like characteristics. A whole new realm of reality, providing a powerful space which enabled using multiple layers for storytelling, hyper-production of information, and interactivity empowered audiences to select what to consume from an extensive choice set (Pantic, 2017).

However, there was significant progress in categorizing uses and motivations for SNSs due to flexibility in uses and gratification approach and stressed that there were not strictly defined categories of motives for media uses, therefore researchers operationalized motives in different ways (Ruggiero, 2000). All these motives respond to the typology of ‘social and psychological needs’ earlier identified by Katz (Palmgreen, Wenner, & Rayburni, 1980; Shao, 2009), i.e. ‘cognitive need, affective needs, personal integrative needs, social integrative needs, and Tension-release’.

The U&G has successfully been applied to find the online media uses and motives and described ‘online media adoption behaviour’ (Yang, Li, Fu, & Kou, 2017). In the new media context, the two approaches were explored in U&G perspectives, one focuses on exploring new artefacts from existing perspectives, while the other, more flexible approach, stresses the need to re-examine existing concepts and introduce new ones (Mitchelstein & Boczkowski, 2009). Therefore, the current study adapted existing scales but examined in a new context and time.

The current study derived ‘five needs’ from widely used and highly cited categories of media needs by Katz et al. (1973). As these five categories of needs group 35 motives for media use such as information, knowledge, and understanding; aesthetic, pleasurable and emotional experience; credibility, confidence, stability, and status; contact with family, friends, and the world and lastly, escape or tension-release.

**Measurement**

The scale is divided into three sections: background information which consist of demographics, time measurement like frequency of use in terms of time, duration and access and last section ‘SNSs needs’ was sub-divided into five needs.
Background

The first section which recorded background information of respondents included age, gender, income, residency, occupation, education, and marital status.

SNSs usage patterns

This section was comprised of multiple indicators to measure use of SNSs. Time spent on SNSs was measured in minutes and hours, access to SNSs was measured as ‘checking SNSs account’ and ‘sign-in’ per day and time of increased use was also measured from morning to night, membership of SNSs was indicated by years. A further preferred device like the mobile, laptop was asked to use SNSs and a number of active SNSs account was measured in a specific number, like one to more than five. Another silent feature of the instrument was to state all popular SNSs to find the widely used SNSs in ranking order. All these items were generated and combined on the basis of reports and studies which indicated gradual use and factors particularly electronic devices. Overall this section had 8 questions with multiple options.

SNSs needs

This part of questionnaire comprised of five needs and 29 items were derived from existing SNSs scales, such as Sheldon (2008) ‘motives for Facebook use’ scale, Khan (2018) ‘social information seeking, SIS’ scale, Information Seeking in Facebook Scale (ISFS) by Asghar (2015), Papacharissi and Rubin (2000) ‘predictors of Internet’ and Motives for Using Facebook, Patterns of Facebook Activities by Yang and Brown (2013).

Phase 1: expert validity (face & content validity)

This scale is adapted from available SNSs scales, based on five categories of SNSs needs and 29 items have been checked to have direct applicability to the Pakistani context. However, it is adapted from well-validated scales, but it is imperative to confirm the validity in the current context (Hair, Ringle, & Sarstedt, 2011). This study explicitly explored the needs for SNSs usage in Pakistan by following reliable and valid scale development procedures of Hinkin (1995) and Churchill (1979). Content validity ensures the items in the questionnaire reflect a complete range of the attributes under investigation and face validity provide insight into how the potential participants might interpret and respond to the items (DeVon et al., 2007).

Based on 29 items, the first draft of the instrument was divided into five dimensions, Cognitive needs: 5 items, Affective needs: 6 items, Social Integrative needs 7 items, Diver- sion: 4 items and Personal Integrative needs: 7 items. (During statistical analysis, these dimensions are identified as latent variables.)

However, to ensure the eligibility of instrument for application, experts evaluated all items and validated the complete instrument (Benson & Clark, 1982). For empirical quantitative research, the reliability and validity of the instrument are integral (Winter & Fleenor, 2006). The validity of the instrument is established if an instrument provides a measure of what it intends to measure. By content validation, it was certified that whether the adopted instrument measures what is intended to measure and verified whether each item reflects relevancy with each domain (Davis, 1996).
Method

For the study, an adapted instrument was statistically analyzed. The four stages of instrument validation such as planning, construction, quantitative analysis, and validation are followed. The first two stages, planning, and construction are explored extensively with the help of available literature review and expert opinion that what are the uses of SNSs, what needs are being gratified through SNSs and how time spent on SNSs is growing and which social networking site is widely used, particularly in the Pakistani context.

By keeping in view the objectives of the study, the researchers derived statements from the previous measurement of SNSs. The generated statements are grouped according to the category of need, as defined by Uses & Gratification Theory. At first stage, 29 items were selected from previously developed measurements and then each item was aligned according to 5-point Likert scale (Strongly Agree = 5, Agree = 4, Somewhat = 3, Disagree = 2 and Strongly Disagree = 1). The analysis of literature and previous SNSs measurements guided the researchers to measure the needs and uses of SNSs in the Pakistani context.

Experts participants

As the area of the study is Pakistan, therefore experts from Pakistan and International with track records in the field of SNSs research were invited to participate in the study. Maximum efforts were made to select experts who had enough experience in selected domains at least 10 years and had publication after 2000. So that they better comprehend the emerging trends of SNSs use, particularly in Pakistani cultural context. All the experts have Ph.D. degree in their field and have excellent knowledge about SNSs needs, SNSs usage pattern in Pakistan and emerging trends of SNSs in Pakistan.

Finally, after repeated requests and reminder, 6 experts accepted to participate in the study, 4 Pakistani and 2 International (one from Malaysia and one from the USA). After receiving the acceptance of experts, an adapted version of the instrument was sent through e-mail to them which evaluated the relevance and clarity of each item.

Statistical analysis

The statistical analysis of the adapted instrument was performed by Content Validity Index (CVI). The selected panel of expert judged and evaluated each item on the basis of relevance, clarity, presentation, and consistency (Benson, 1982). Since this scale is adapted, therefore, only two aspects of content validity i.e. relevancy and clarity were evaluated by experts. For both aspects (relevancy and clarity), to calculate CVI, each item was ranked on four-point scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant). The six experts participated in the study and rank of 3 and 4 was selected to calculate CVI. The Kappa Modified Coefficient was calculated, in order to determine the degree of relevance agreement with CVI (Polit, Beck, & Owen, 2007). 1.00 to 0.71 was an acceptable value for CVI and Kappa Modified accepted value ranged from 1.00 to 0.65.

Results

At the first phase of content validation, satisfactory CVI between 0.71 and 1.00 is received after the evaluation of experts. Few minor changes were suggested by experts and items with the
same meaning were suggested to remove. It was also observed by the expert that longer instrument influence the feedback response and tend to have less response rate. Most items in the SNSs needs obtained satisfactory scores (Table 1). But according to suggestions by experts, few items were modified and corrected for clarity and few were excluded with the same meaning. The modification in wording, such as noun ‘it’ is replaced with the pronoun ‘SNSs’. Maximum items remained in the final version of the instrument. The items which were not relevant and clear, are excluded, but items which were relevant but not clear, their wording is changed as suggested by experts. Further in each sub-domain of SNSs, additional items are excluded to gain and ensure maximum feedback.

Hence, out of 29 items, four items for each dimension (i.e. each latent variable), a total of 20 items remained for study. 3 items under diversion remain validated and only one item is corrected, therefore, four items in total achieved satisfactory CVI. Whereas one item from cognitive needs is excluded and rest four items with satisfactory CVI remained in the instrument. Similarly, one item from affective needs is excluded, two are corrected and two are validated. Four items under personal integrative needs are corrected and two

| Sub-Domains          | Items                                                                 | Relevancy CVI | Clarity CVI | Results     |
|----------------------|-----------------------------------------------------------------------|---------------|-------------|-------------|
| Diversion            | SNSs helps me to feel less lonely                                      | 1.00          | 1.00        | Validated   |
|                      | I use SNSs to pass time when I am bored                                | 1.00          | 1.00        | Validated   |
|                      | SNSs lets escape my worries                                           | 1.00          | 1.00        | Validated   |
|                      | I start using SNSs when I have nothing better to do                    | 1.00          | 0.66        | Corrected   |
|                      | SNSs help me in research and studies                                   | 1.00          | 0.83        | Validated   |
|                      | SNSs help to search job/ online business/ scholarship                   | 1.00          | 0.83        | Validated   |
|                      | SNSs help to gain knowledge                                            | 0.83          | 0.83        | Validated   |
|                      | SNSs give me information about others                                  | 0.83          | 0.83        | Validated   |
|                      | SNSs allows me to explore what is out there                            | 0.66          | 0.33        | Excluded    |
| Cognitive needs      | Using SNSs is one of the routine things I do when I’m online        | 1.00          | 0.83        | Corrected   |
|                      | SNSs help me to express my emotions to others easily                   | 0.83          | 0.83        | Validated   |
|                      | SNSs allow me to develop romantic relationship                         | 0.83          | 0.83        | Validated   |
|                      | I use SNSs to talk about my problems and get advice                    | 0.83          | 0.66        | Corrected   |
|                      | I use SNSs to express my anger to others who will sympathize         | 0.50          | 0.66        | Corrected   |
|                      | I use SNSs to let others know I care about their feelings             | 0.83          | 0.66        | Excluded    |
| Affective needs      | Using SNSs is one of the routine things I do when I’m online        | 1.00          | 0.83        | Corrected   |
|                      | SNSs help me to express my emotions to others easily                   | 0.83          | 0.83        | Validated   |
|                      | SNSs allow me to develop romantic relationship                         | 0.83          | 0.83        | Validated   |
|                      | I use SNSs to talk about my problems and get advice                    | 0.83          | 0.66        | Corrected   |
|                      | I use SNSs to express my anger to others who will sympathize         | 0.50          | 0.66        | Corrected   |
|                      | I use SNSs to let others know I care about their feelings             | 0.83          | 0.66        | Excluded    |
| Personal integrative needs | SNSs is part of my self-image                           | 0.83          | 0.66        | Corrected   |
|                      | SNSs portrays an image of me to others                                | 0.83          | 0.66        | Corrected   |
|                      | People can use SNSs to judge me                                       | 0.83          | 0.83        | Corrected   |
|                      | SNSs makes me cool among my peers                                     | 0.66          | 0.66        | Excluded    |
|                      | SNSs informs others about me                                          | 0.83          | 0.50        | Excluded    |
|                      | I use SNSs to gain favourable approval among friends                   | 1.00          | 0.83        | Corrected   |
| Social integrative needs | I use SNSs to take part in activities                             | 0.83          | 0.66        | Excluded    |
|                      | SNSs allows me to communicate with my friends                         | 1.00          | 0.83        | Validated   |
|                      | SNSs allows me to stay in touch with family                           | 0.83          | 1.00        | Validated   |
|                      | SNSs enables me to add new friends                                    | 1.00          | 0.66        | Corrected   |
|                      | SNSs allows me to find more interesting people than in real life      | 0.83          | 1.00        | Validated   |
|                      | SNSs allows me to get through to someone who is hard to reach         | 0.83          | 0.83        | Validated   |
|                      | SNSs allow me to find companionship                                   | 0.83          | 0.66        | Excluded    |
|                      | I use SNSs to see other people’s pictures                             | 0.83          | 0.56        | Excluded    |
are excluded. For the fifth sub-dimension i.e. social integrative needs, out of 7 items, two are excluded and 5 items are validated. But the first two items are merged and for final questionnaire 4 items are included.

Phase 2: confirmatory analysis (statistical validation)

Participants, design, and selection

An online questionnaire was created using Google Form and the questionnaire link was distributed via the first author’s email and WhatsApp contacts in September 2018. A convenient sampling and possibly snowball methods were employed. At first, the link was shared with colleagues working in SZABIST, International Islamic University, Fatima Jinnah Women University, and Allama Iqbal Open University. Later the link was also sent to students. To colleagues and students, it was requested to share with their contacts in friends and families. But, it was ensured that participants must meet the eligibility criterion, such as they have active social media account in any social networking site, must be 18 and above and must have at least 10 years of education i.e. Matriculation. All these basic demographics information was asked in the first section, if the participants fulfill this criterion, then they move further to fill the questionnaire. Since the convenience and snowball sampling was used, therefore, it helped to record feedback and responses of people across the country with diverse socio-economic status and minor but a representation of all-region was received. The Google Form remained accessible for one month and 162 responses were recorded. Although it was shared and reminded by the author to fill and share the link, the response rate was low. It was ensured to keep their confidentiality and responses would be used only for academic purposes. A brief instruction note was also written on how to fill the questionnaire.

The questionnaire was comprised of three sections (demographics, usage pattern, and needs). All questions were closed-ended. In the demographics section, the information about their age, gender, marital status, qualification, profession, residence, and household income was asked. The second section consists of social media usage pattern measurement, the questions included; numbers of hours spent on SNSs, number of active SNSs account, preferred device to use SNSs, preferred time to use SNSs, preferred SNS, etc. For these two sections, options were given to participants to tick one. The last and third section of the questionnaire measured the SNSs needs, which were derived from Uses and Gratification theory and same terms were used as proposed by Katz et al. (1973), i.e. Diversion, Cognitive needs, Personal Integrated needs, Social Integrated needs and Affective needs. Five-point Likert scale was used in this section, starting from strongly agree to strongly disagree.

Demographics

In the exploratory study, 162 people (n = 162), from rural and urban both areas of Pakistan, participated but mainly respondents are urban residents (68.5%). Among the respondents, 57.4% were female and 42.6% were male. The age ranges from 18 to 60 years (M = 2.67, SD = .756), the majority of respondents were 19–29 years (46.3%) and 30–39 years (41.4%) old. Among the participants, 43.2%, 30.9%, and 20.4% were married, single and unmarried respectively. Highest level of education completed of respondents was Master i.e. 16
years of education in Pakistan (38.3%) and followed by Graduate respondents i.e. 14 years of education (24.1%). The residency of mostly respondent is a big city (68.5%). The majority of the respondents have 90,000 and above monthly household income and fall in the upper-middle class. 56.8% of respondents were working and 26.5% were students. The results show that the sample was enough divers based on demographics, such as age, education and, residence, and the sample is not homogenous. The KMO value of 0.66 also highlights the adequacy of the sample and appropriateness for factor analysis (Table 2).

**SNSs usage pattern**

The descriptive statistical analysis of the second section of the questionnaire, which consists of ‘usage patterns’ revealed that 93% of respondents use SNSs actively, 4.9% occasionally and 1.9% use rarely. Further, among the respondents, mostly reported having an active account on two to four SNSs (20.4%, 23.5% & 17.3%). Average 3–6 h per day were spent on SNSs (M = 4.64, SD = 1.67) and 27.8% reported that they check their SNS account on every beep. The time spent on SNS or duration of use increases at night (52.5%) and mobile were preferred to use SNSs (91.4%) (Table 3).

The last question of this section asked among social networking sites, such as Facebook, Twitter, Snap-Chat, Instagram, etc, which one is widely used? Five options were given, such

| S. No. | Category                    | Value | Frequency | Percentage |
|--------|-----------------------------|-------|-----------|------------|
| 1.     | Gender                      | Female | 93        | 57.4       |
|        |                              | Male   | 69        | 42.6       |
| 2.     | Age                         | Less than 18 | 1 | .6     |
|        |                              | 19–29  | 75        | 46.3       |
|        |                              | 30–39  | 67        | 41.4       |
|        |                              | 40–49  | 15        | 9.3        |
|        |                              | 50–59  | 4         | 2.5        |
| 3.     | Marital status              | Married | 70  | 43.2      |
|        |                              | Unmarried | 63 | 20.4      |
|        |                              | Divorced | 2  | 1.2       |
|        |                              | Widow | 1         | .6         |
|        |                              | Engaged | 6  | 3.7       |
| 4.     | Highest educational level completed | Matriculation | 1 | .6      |
|        |                              | Intermediate | 17 | 10.5     |
|        |                              | Graduate | 39 | 24.1     |
|        |                              | Masters | 62 | 38.3     |
|        |                              | M.Phil. | 30 | 18.5      |
|        |                              | Ph.D. | 12         | 7.4        |
|        |                              | Other | 1         | .6         |
| 5.     | Residence                   | Big city | 111 | 68.5     |
|        |                              | Small city | 28 | 17.3     |
|        |                              | Town | 7         | 4.3        |
|        |                              | Cantt area | 13 | 8.0      |
|        |                              | Rural area | 3  | 1.9      |
| 6.     | Your occupation             | Students | 43 | 26.5     |
|        |                              | Working | 92 | 56.8     |
|        |                              | House wife | 14 | 8.6      |
|        |                              | Self-employed | 12 | 7.4     |
|        |                              | Others | 1         | .6         |
| 7.     | Household monthly income    | Less than 29,999 | 13 | 8.0      |
|        |                              | 30,000–49,999 | 21 | 13.0     |
|        |                              | 50,000–69,999 | 27 | 16.7     |
|        |                              | 70,000–89,999 | 33 | 20.4     |
|        |                              | 90,000 and above | 68 | 42.0     |
Table 3. SNSs use pattern among respondents.

| S.No | Category                        | Value         | Frequency | Percentage |
|------|--------------------------------|---------------|-----------|------------|
| 1.   | SNSs use                        | Yes           | 151       | 93.2       |
|      |                                | Occasionally  | 8         | 4.9        |
|      |                                | Rarely        | 3         | 1.9        |
| 2.   | Preferred device                | Desktop computer | 5       | 3.1       |
|      |                                | Laptop        | 9         | 5.6       |
|      |                                | Mobile        | 148       | 91.4       |
| 3.   | Number of SNS used actively     | One           | 15        | 9.3        |
|      |                                | Two           | 33        | 20.4       |
|      |                                | Three         | 38        | 23.5       |
|      |                                | Four          | 23        | 14.2       |
|      |                                | Five          | 28        | 17.3       |
|      |                                | More than five| 25        | 15.4       |
| 4.   | Checking SNSs account per day   | On every notification beep | 45 | 27.8 |
|      |                                | 1–2 times per day | 20 | 12.3 |
|      |                                | 3–4 times per day | 23 | 14.2 |
|      |                                | 5–6 times per day | 20 | 12.3 |
|      |                                | 7–8 times per day | 17 | 10.5 |
|      |                                | 9 + times per day | 37 | 22.8 |
| 5.   | Time spend on SNSs per day      | Less than 15 min | 3 | 1.9 |
|      |                                | Half hour – one hour | 14 | 8.6 |
|      |                                | 1–2 h          | 22        | 13.6       |
|      |                                | 3–4 h          | 41        | 25.3       |
|      |                                | 5–6 h          | 37        | 22.8       |
|      |                                | 7–8 h          | 23        | 14.2       |
|      |                                | 9 h and more   | 9         | 5.6        |
| 6.   | Increase in SNSs use            | Day time      | 27        | 16.7       |
|      |                                | Evening       | 29        | 17.9       |
|      |                                | Night         | 85        | 52.5       |
|      |                                | Weekends      | 18        | 11.1       |
| 7.   | Duration of using SNSs          | Less than one year ago | 5 | 3.1 |
|      |                                | 1–2 years ago | 4         | 2.5        |
|      |                                | 3–4 years ago | 17        | 10.5       |
|      |                                | 5–6 years ago | 31        | 19.1       |
|      |                                | 7–8 years ago | 39        | 24.1       |
|      |                                | 9–10 years ago | 38 | 23.5 |
|      |                                | More than 10 years ago | 28 | 17.3 |

as ‘Every day, 3 to 5 times a day, occasionally, rarely and never’. In ranking order, WhatsApp (92.6%), Facebook (66.7%), YouTube (56.8%) and Instagram (42.6%) is used every day (Table 4).

Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) is used to verify the factor structure and test the relationship between observed variables. The gathered responses of 162 participants for 20 items were analyzed through CFA. Prior to analysis, the accuracy of data was examined through missing values, outliers and skewness and kurtosis coefficient. The review revealed that all the items were normally distributed and the values of skewness and kurtosis range within ±2. This statistical analysis indicated that the data were suitable for further analysis as no significant violation was found.

For the factor analysis, three recommended aspects, such as sample size, factorability of the correlation matrix and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy or Bartlett’s Test of Sphericity were reviewed and examined.

For sample size, 100 and larger was suggested by Hair et al. (2011) and statisticians MacCallum and Widaman (1999) suggested that the number of sample sizes should be the
greater of 5 times the number of variables. Based on this argument, the suitable size for the current study must not less than 100 (28 items 5 times). Therefore, 162 sample of the current study is quite appropriate. Secondly, the sample adequacy was determined by Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity (BTS). Hair et al. (2011) suggested KMO greater than 0.6 and BTS must be significant at $\alpha < .05$. These values of KMO and BTS ensure whether the sampling was adequate to proceed with factor analysis (Williams, Onsman, & Brown, 2012). The results of the current study indicate the appropriateness for factor analysis in terms of sample size and sample adequacy (Haenlein & Kaplan, 2015).

For the current analysis, Structural Equation Modelling (SEM) was performed for the measurement model to indicate the link between observed variables and their relation. AMOS (version 21.0) is used for the measurement of estimation of confirmatory analysis. The standardized values of Root Mean Square Error of Approximation (RMSEA) i.e. 0.08, degree of freedom, chi-square, Goodness of Fit Index (GFI) i.e. .90, Adjusted Goodness of Fit Index (AGFI) i.e. .90 were followed to ensure the fitness of the model (Hair et al., 2011).

### Measurement model for SNSs needs

The relation of the latent variable and measured items are represented in the measurement model and further, it describes the relationship between items and measures construct. The measurement model also tests the validity of the observed and latent variables. If the model is poor-fit (indicate unreliable variables) then the researcher cannot move further for structural analysis. Individual loading of each item greater than 0.7 ensures adequate reliability of each item. However, scholars also suggested accepting 0.4-factor loading in the case of 200 or more sample size (Hair et al., 2011).

The measurement Confirmatory Factor Analysis (CFA) model of this study includes 18 items to measure five subscales of SNSs usage needs. The measurement model with all 18 items was portrayed in the figure, indicating all loading factors more than 0.5. The results indicated that fitness of the measurement model with $x^2(124) = 245.353$, $p = 0.00$, $x^2/DF = 1.979$, GFI = 0.861; CFI = 0.922; IFI = 0.923, RMSEA = 0.078.

Although there is no universally accepted statistics to ensure the adequate fitness of model but few indices like the ratio of chi-square, GFI, RMSEA were calculated to check the model. The standard value RMSEA (0.08) estimates the fitness of model and above than this value makes the model misfit. The lower values indicate the more fitness of the model. The value of CFI and IFI (.90) is generally considered acceptable to represent fitness of model but the greater value is considered an excellent model. GFI values

| SNS         | Every day | 3–5 times a day | Occasionally | Rarely | Never |
|-------------|-----------|-----------------|--------------|--------|-------|
| Facebook    | 66.7%     | 23.5%           | 1.9%         | –      | 3.1%  |
| Twitter     | 19.1%     | 27.2%           | 8.6%         | 0.6%   | 17.9% |
| WhatsApp    | 92.6%     | 4.3%            | –            | –      | –     |
| Myspace     | –         | 13.6%           | 3.7%         | 0.6%   | 38.3% |
| Instagram   | 42.6%     | 16.7%           | 2.5%         | –      | 14.8% |
| Snapchat    | 21.6%     | 16%             | 3.1%         | –      | 22.8% |
| LinkedIn    | 6.8%      | 34%             | 8.6%         | 0.6%   | 17.9% |
| Google+     | 19.8%     | 27.8%           | 13%          | 0.6%   | 13.6% |
| YouTube     | 56.8%     | 31.5%           | 1.2%         | –      | 1.2%  |
| Facebook Messenger | 27.2%     | 41.4%           | 9.3%         | –      | 4.3%  |
ranged in .80–.89 represent the reasonable fit model. The above-mentioned values indicate the adequate fitness of measurement model for SNSUN.

Chi-square (df) = 245.353 (124); P value (>=0.05) = .000
; Relative Chi-Sq (<=5) = 1.979; GFI (>=0.8) = .861
; ; CFI (>=0.9) = .922; IFI (>=0.9) = .923
; ; RMSEA (<=0.08) = .078
Reliability and validity analysis

Reliability and validity both are an integral component of instrument development. Reliability ensures the same results after repeated application and validity identifies that instrument measures what it intends to measure. There are three types of validity, content validity, construct validity and criterion validity. The content validity of the SNSUN was established during the first phase by seeking the expert's feedback. The construct validity is verified by using statistical analysis such as correlations to understand and represent the relevancy of items and variables. The construct validity is indicated by scores of convergent and discriminant validity. The criterion validity is determined by scores of statistical analysis such as correlation which predict the outcome. Further, the reliability of the instrument is determined by the test and retest method, the scale is reliable if, at two different points, the correlation is above .60. For internal consistency, the coefficient alpha (or Cronbach’s alpha) is measured and higher alpha value (.70) indicates the reliability of the scale.

Construct validity

Calder, Phillips, and Tybout (1982) define construct validity as ‘the extent to which an operational measure truly reflects the concept being investigated or the extent to which operational variables used to observe covariation in and between constructs can be interpreted in terms of theoretical constructs’. The construct validity is an umbrella term (Nunnally & Bernstein, 1994) which defines that construct measures what it intends to measure and gaining wider acceptance in social sciences research (Messick, 1995). Through construct validity, the researchers ensure to measure a certain attribute and to infer meaningful assessment (McMillan & Schumacher, 2014). The construct validity verifies the relationship between a particular measure and the concept, therefore ensures systematic instrument according to the underlying construct. As compared to other types of validity, construct validity is the most appropriate to assess measures in the social sciences (Zeller & Carmines, 1980). The construct validity is divided broadly into two categories, one is convergent validity and second is discriminant validity. In order to establish the specificity of a construct, both are used in combination. Convergent validity verifies that agreement between measures which aim to measure the same concept. On the other side, convergent validity examines the divergence in the instrument. The convergent and discriminant validity of the scale ‘SNSUN’ was also measured.

Convergent validity of SNSs needs

According to the result of the measurement model for SNSs usage needs composite reliability (CR) is between 0.810 and .882 which indicates adequate reliability for all subscales of SNSs needs. In addition, all AVE values were more than 0.5 and also all factor loadings are above 0.5 for this construct which revealed that these five subscales met the convergent validity (Table 5).

Discriminate validity of SNSs needs

Discriminant validity is an integral part of an empirical study that involves a latent variable to avoid the issue of multicollinearity. The square root of AVE of each construct was used to
test discriminant validity. A higher level of the square root of AVE compared to correlation among constructs indicates discriminant validity. Below Table 7, reveal the square root of AVE than the correlation for each subscale (bolded numbers) which indicate adequate discriminant validity of the subscales (Table 6).

**The relationship among SNSs needs subdomain**

In order to evaluate the relationship among SNSs needs, Pearson correlation coefficients were used and results (Table 7) shows the correlation coefficients among five SNSs needs subdomain which is a significant relationship. According to these results, it was found that all correlation coefficients were positive and at a moderate level. The highest correlation coefficient belonged to the relationship between affective needs and personal

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**Table 5. Convergent validity and reliability of SNSs needs measurement model.**

| Construct               | Item   | Initial CR | Modified CR | CR | AVE |
|-------------------------|--------|------------|-------------|----|-----|
| Diversion               | SN.DIV1| 0.878      | 0.914       | 0.827| 0.619|
|                         | SN.DIV2| 0.706      | 0.694       |     |     |
|                         | SN.DIV3| 0.752      | 0.734       |     |     |
|                         | SN.DIV4| 0.379      | Deleted     |     |     |
| Cognitive needs         | SN.CND1| 0.782      | 0.786       | 0.826| 0.544|
|                         | SN.CND2| 0.689      | 0.691       |     |     |
|                         | SN.CND3| 0.786      | 0.786       |     |     |
|                         | SN.CND4| 0.685      | 0.681       |     |     |
| Affective needs         | SN.AND1| 0.454      | Deleted     | 0.824| 0.610|
|                         | SN.AND2| 0.749      | 0.737       |     |     |
|                         | SN.AND3| 0.752      | 0.771       |     |     |
|                         | SN.AND4| 0.803      | 0.832       |     |     |
| Personal integrative needs | SN.PI1 | 0.850      | 0.852       | 0.882| 0.652|
|                         | SN.PI2 | 0.883      | 0.880       |     |     |
|                         | SN.PI3 | 0.753      | 0.751       |     |     |
|                         | SN.PI4 | 0.734      | 0.737       |     |     |
| Social integrative needs | SN.SI1 | 0.824      | 0.730       | 0.810| 0.518|
|                         | SN.SI2 | 0.719      | 0.601       |     |     |
|                         | SN.SI3 | 0.703      | 0.762       |     |     |
|                         | SN.SI4 | 0.715      | 0.774       |     |     |

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**Table 6. Discriminate validity among SNSs needs subdomains.**

|                    | PI   | DIV | CND | ANDS | SI  |
|--------------------|------|-----|-----|------|-----|
| PI                 | **0.807** |     |     |      |     |
| DIV                | 0.454 | **0.787** |     |      |     |
| CND                | 0.379 | 0.545 | **0.738** |      |     |
| AND                | 0.730 | 0.616 | 0.504 | **0.781** |     |
| SI                 | 0.561 | 0.572 | 0.595 | 0.662 | **0.720** |

(PI = Personal integrated needs, DIV = Diversion needs, CND = Cognitive needs, AND = Affective needs & SI = Social integrative needs).

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**Table 7. Correlation coefficient among SNSs needs subdomains.**

| Variable             | Diversion | Cognitive needs | Affective needs | Personal need | Social needs |
|----------------------|-----------|-----------------|-----------------|---------------|--------------|
| Diversion            | 1         |                 |                 |               |              |
| Cognitive needs      | 0.453**   | 1               |                 |               |              |
| Affective needs      | 0.514**   | 0.430**         | 1               |               |              |
| Personal need        | 0.423**   | 0.323**         | 0.644**         | 1             |              |
| Social needs         | 0.495**   | 0.501**         | 0.547**         | 0.465**       | 1            |

**Correlation is significant at the 0.01 level (2-tailed).**
needs ($r = 0.644, p < 0.01$) followed by the relationship between affective needs and social needs ($r = 0.547, p < 0.01$). The lowest correlation coefficient was observed between personal needs and diversion ($r = 0.423, p < 0.01$) which was at a moderate level.

**Discussion**

The results have ensured that even in low-income countries, using Social network sites (SNSs) has become one of the most popular activity for ordinary people. Considering the SNSs scale which were developed and validated in Western countries, the current study developed an instrument, measuring SNSs usage patterns and needs in South Asian context. The sampling adequacy was determined by Kaiser–Meyer–Olkin (KMO), i.e. KMO = .66. Except two items (1) I start using SNSs when I have nothing better to do. (2) Using SNSs is one of the routine things I do when I’m online) indicated satisfactory loading. Later the modified model study includes 18 items to measure five subscales of SNSs usage needs with loading more than 0.5. The results indicated that fitness of measurement model with $x^2 (124) = 245.353, p = 0.00, x^2/DF = 1.979, GFI = 0.861; CFI = 0.922; IFI = 0.923, RMSEA = 0.078$. The factor analysis suggested that the newly developed questionnaire is of good psychometric characteristics.

The scale was developed, evaluated by expert and survey was conducted for reliability. The results reported high reliability ($\alpha = .922$) and strongly correlated within and between dimensions. Unlike previous studies, this study was heterogeneous and not limited to only one segment of the population such as students or young people. Further, the study was not focused solely on one location with respondents coming from diverse backgrounds and localities. The sample size for validating this study’s instrument adhered to recommended procedures to ensure high accuracy and less discrepancy (Hair et al., 2011). Above all, this study’s social media use patterns are similar to current trends wherein the mobile phone usage correlates with high use of social media.

Although the items were generated and derived from the studies which were conducted in the developed part of the world, however findings suggested an insignificant difference in developing country context as well. The results revealed a tremendous increase in social media usage in terms of time duration, number of SNSs and preferred device and consistent with the Western studies which are technology manufacturer (Ross et al., 2009). Further, the majority of the sample comprised of ‘urban’ areas which have more advanced technological facilities, therefore, culturally the results are not influenced. Therefore, usage patterns are consistent with previous findings (Junco, 2012; Olufadi, 2015; Pempek et al., 2009).

Since the social, political, technological, cultural and economic situation (Jenkins-guarneri et al., 2013) contribute in acceptance of new media technologies and their uses (Hasebrink et al., 2015) is less evident in the current study. Furthermore, there is no ‘universal’ index to measure the duration of use and most of the study focused on ‘either one or two SNSs’, most specifically ‘Facebook’ (Joinson, 2008; Junco, 2012). Duggan et al. (2015) found that two and more SNSs were used by people, therefore, focusing on one SNS is problematic. The results of the study have shown that despite the low-income country and culturally collectivists, still, the trends of social media usage are higher in Pakistan (Tariq et al., 2018). Since Pew Research Center also reported accelerating use of social media technologies in developing the region and the presented studies also indorsed the growing use.
The explosion of technologies in eastern countries, specifically smartphones (Al-Harrasi & Al-Badi, 2014) which lead to 24/7 access to SNSs (Hingorani, Woodard, & Askari-Danesh, 2012) has made people ‘phone manic’ (Ali, Rizvi, & Qureshi, 2014) in Pakistan.

**Contribution of the current study in social media research**

Since last decade, the social media research is quite evident in academic journals, particularly focused on Developed part of world. Therefore, the researchers in the present study were intended to examine the social media uses and needs in neglected part of the world, which is developing and struggling to overcome traditional, cultural, political, economic and technological issues. The social media research, conducted in developing countries, borrowed measurements from Western studies, such as Facebook Intensity Scale (Ellison et al., 2007) and Social Media Use Integration Scale (SMUIS) (Jenkins-guarnieri et al., 2013), Multidimensional Facebook Intensity Scale (Orosz, Tóth-Király, & Bőthe, 2016), The Media and Technology Usage and Attitudes Scale (Rosen, Whaling, Carrier, Cheever, & Rokkum, 2013). The previous scales were not fully generalizable. These studies relied on multiple scales and integrated into one study, were narrowly focused on youth samples, limited to repeated variables and single SNS i.e. Facebook and widely used scales failed to measure recent trends (Sigerson & Cheng, 2018).

This current study was carried out to address these above mentioned gaps and to develop a scale validated for non-Western contexts, based on diverse samples and measures recent trends of SNSs use in low-income and developing country contexts.

**Future direction and conclusions**

The Social Networking Sites Usage & Needs Scale (SNSUN) measures SNS usage patterns and needs with constructs that measure what they intend to measure and are simultaneously correlated to one another.

The fitness of the model suggests that the scale presented in this study is sufficiently comprehensive to measure SNSs usage patterns and needs respectively, whilst reasonably relevant with current trends. This scale integrates both uses and needs in one instrument according to recently increasing trends of technology access in developing countries. Digital devices, such as laptops and mobile phones contribute to access and increasing the frequency of use of SNSs. Since the SNSUN is relevant to latest trends, it is useful for future studies to examine other sample sizes and cultural contexts. Although the loadings of the scale indicate that researchers can use it to measure SNSs needs, time spent on SNSs and preferred SNS and device. However, the fitness of the model can be re-confirmed using confirmatory analysis and improve the model.

Future research can expand on the contribution of Social Networking Sites Usage & Needs Scale (SNSUN). Further studies using this scale can examine the effects of frequently used devices (mobile phone, laptops etc.) on SNSs use. Further longitudinal and cross-sectional studies are suggested to report long-term use and needs which remain persistent over time. Researchers and media students specifically can utilize this scale in their studies, particularly in developing countries to make it more specific to cultural context. Comparative studies (gender, culture and SNSs) can yield more in-depth analysis regarding the differences in SNSs uses and needs.
The interesting aspect of this study’s finding was that most working people participated in the study and as the earlier studies revealed students as heavier users but this exploratory study found that working people formed the majority of respondents, therefore it is recommended to explore further that how working people use SNSs and which needs are being gratified through SNSs use (Cao, Guo, Vogel, & Zhang, 2016; Carlson, Zivnuska, Harris, Harris, & Carlson, 2016).

The researchers are expected that other scholars will be interested to use and revise this instrument and incite more debates. We are hopeful that it would be a valuable addition in existing knowledge about social media recent usage trends and needs.

The validated scale in developing country context suggests future researchers conduct studies in their regions to shed light on the difference between ‘have n haven’t’. The scale will be beneficial for coming researchers and provides guidelines to record SNSs use and needs in other developing countries to foster this academic knowledge sharing process.

Disclosure statement
No potential conflict of interest was reported by the authors.

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References

Ahmad, S., Mustafa, M., & Ullah, A. (2016). Association of demographics, motives and intensity of using social networking sites with the formation of bonding and bridging social capital in Pakistan. Computers in Human Behavior, 57, 107–114. doi:10.1016/j.chb.2015.12.027

Al-Harrasi, A. S., & Al-Badi, A. H. (2014). The impact of social networking: A study of the influence of smartphones on college students. Contemporary Issues in Education Research (CIER), 7(2), 129. doi:10.19030/cier.v7i2.8483

Al-Menayes, J. J. (2015). Motivations for using social media: An exploratory factor analysis. International Journal of Psychological Studies, 7(1). doi:10.5539/ijps.v7n1p43

Ali, R. (2016). Social media and youth in Pakistan: Implications on family relations. Global Media Journal, 14(26), 1–6.

Ali, S., Rizvi, S. A. A., & Qureshi, M. S. (2014). Cell phone Mania and Pakistani youth: Exploring the cell phone usage patterns among teenagers of South Punjab. FWU Journal of Social Sciences, 8(2), 43–51.

Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue—social media and business transformation: A framework for research. Information Systems Research, 24(1), 3–13. doi:10.1287/isre.1120.0470

Asghar, H. M. (2015, November). Measuring information seeking through Facebook: Scale development and initial evidence of Information Seeking in Facebook Scale (ISFS). Computers in Human Behavior, 52, 259–270. doi:10.1016/j.chb.2015.06.005

Benson, J. (1982). A guide for instrument development and validation. The American Journal of Occupational Therapy: Official Publication of the American Occupational Therapy Association, 38, 789–800.

Benson, J., & Clark, F. (1982). A guide for instrument development and validation. American Journal of Occupational Therapy, 36(12), 789–800. doi:10.5014/ajot.36.12.789

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent well-being: A systematic narrative review. Children and Youth Services Review, 41, 27–36. doi:10.1016/j.childyouth.2014.03.001

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. Journal of Computer-Mediated Communication, 13(1), 210–230. doi:10.1111/j.1083-6101.2007.00393.x

Brandtzæg, P. B., & Heim, J. (2009). Why people use social networking sites. Petter Bae Brandtzæg – Academia.edu (pp. 143–152). Retrieved from http://www.academia.edu/907531/Why_People_Use_Social_Networking_Sites

Calder, B. J., Phillips, L. W., & Tybout, A. M. (1982). The concept of external validity. Journal of Consumer Research, 9(3), 240–244.

Cao, X., Guo, X., Vogel, D., & Zhang, X. (2016). Exploring the influence of social media on employee work performance. Internet Research, 26(2), 529–545. doi:10.1108/IntR-11-2014-0299

Carlson, J. R., Zivnuska, S., Harris, R. B., Harris, K. J., & Carlson, D. S. (2016). Social media use in the workplace. Journal of Organizational and End User Computing, 28(1), 15–31. doi:10.4018/joeuc.2016010102

Chuang, Y., & Schechter, L. (2015). Social networks in developing countries. SSRN, 1–23. doi:10.1146/annurev-resource-100814-125123

Churchill, G. A. (1979, February). A paradigm for developing better measures of marketing constructs. Journal of Marketing Research, 16(1), 64–73. doi:10.1177/002224377901600108

Davis, A. E. (1996). Instrument development: Getting started. Journal of Neuroscience Nursing, 28(3), 204–207. doi:10.1097/01376517-199606000-00009

DeVon, H. A., Block, M. E., Moyle-Wright, P., Ernst, D. M., Hayden, S. J., Lazzara, D. J., … Kostas-Polston, E. (2007). A psychometric toolbox for testing validity and reliability. Journal of Nursing Scholarship, 39(2), 155–164.

Donath, J., & Boyd, D. (2004). Public displays of connection. BT Technology Journal, 22, 71–82.

Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). Social Media Update 2014. http://www.pewinternet.org/2015/01/09/social-media-update-2014
Echebur, E., & del Corral, P. (2010). Adicción a las nuevas tecnologías y a las redes sociales en jóvenes: un nuevo reto. Adiciones, 22(2), 91–96.

Eid, M. I. M., & Al-Jabri, I. M. (2016). Social networking, knowledge sharing, and student learning: The case of university students. Computers and Education, 99, 14–27. doi:10.1016/j.compedu.2016.04.007

Eijaz, A. (2013). Impact of new media on dynamics of Pakistan politics. Journal of Political Studies, 20(1), 113–130. Retrieved from https://www.academia.edu/5036907/Impact_of_New_Media_on_Dynamics_of_Pakistan_Politics

Ellison, N. B., & Boyd, D. M. (2013). Sociality through social network sites. In W. H. Dutton (Ed.), The Oxford handbook of internet studies (pp. 151–172). Oxford: Oxford University Press.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends.” Social capital and college students’ use of online social network sites. Journal of Computer-Mediated Communication, 12(4), 1143–1168. doi:10.1111/j.1083-6101.2007.00367.x

Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: Social capital implications of Facebook-enabled communication practices. New Media and Society, 13(6), 873–892. doi:10.1177/1461444810385389

Ellis, N. B., & Stroud, S. (2013). Social networking usage questionnaire: Development and validation in an Indian higher education context. Turkish Online Journal of Distance Education, 19(4), 214–227.

Eijaz, A. (2013). Impact of new media on dynamics of Pakistan politics. Journal of Political Studies, 20(1), 113–130. Retrieved from https://www.academia.edu/5036907/Impact_of_New_Media_on_Dynamics_of_Pakistan_Politics

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends.” Social capital and college students’ use of online social network sites. Journal of Computer-Mediated Communication, 12(4), 1143–1168. doi:10.1111/j.1083-6101.2007.00367.x

Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: Social capital implications of Facebook-enabled communication practices. New Media and Society, 13(6), 873–892. doi:10.1177/1461444810385389

Gupta, S., & Bashir, L. (2018). Social networking usage questionnaire: Development and validation in an Indian higher education context. Turkish Online Journal of Distance Education, 19(4), 214–227.

Haenlein, M., & Kaplan, A. M. (2015). A beginner’s guide to partial least squares analysis. Journal of Marketing and Communication, 11(3), 435–457.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, 19(2), 139–152. doi:10.2753/mtp1069-6679190202

Hasebrink, U., Jensen, K. B., Van Den Bulck, H., Hölig, S., & Maeseele, P. (2015). Changing patterns of media use across cultures: A challenge for longitudinal research. International Journal of Communication, 9(1), 435–457.

Hingorani, K. K., Woodard, D., & Askari-Danesh, N. (2012). Exploring how smartphones supports students’ lives. Issues in Information Systems, 13(2), 33–40. doi:10.7190/seej.v11i1.38

Hinkin, T. R. (1995). Research note effect of selected additives on the flow parameters of 1:1 mixtures of carrageenan-guar and CMC-locust bean gum. Journal of Management, 21(5), 967–988. doi:10.1111/j.1745-4603.1989.tb00456.x

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. Online Readings in Psychology and Culture, 2, 1–26.

Huang, Y. T., & Su, S. F. (2018). Motives for Instagram use and topics of interest among young adults. Future Internet, 10(8), 77. doi:10.3390/fi10080077

Jackson, L. A., & Wang, J. L. (2013). Cultural differences in social networking site use: A comparative study of China and the United States. Computers in Human Behavior, 29(3), 910–921. doi:10.1016/j.chb.2012.11.024

Jamal, S. (2018). Politics in a digital age: The impact of new media technologies on public participation and political campaign in Pakistan’s 2018 elections – a case study of Karachi abstract (pp. 1–9).

Jenkins-guarnieri, M. A., Wright, S. L., & Johnson, B. (2013). Development and validation of a social media use integration scale. Psychology of Popular Media Culture, 2(1), 38–50. doi:10.1037/a0030277

Johnson, S. L., Faraj, S., & Kudaravalli, S. (2014). Emergence of power laws in online communities: The role of social mechanisms and preferential attachment. MIS Quarterly, 38(3), 795–808.

Johnson, B. T. J., & Kaye, B. K. (2004). Wag the Blog: How reliance on traditional media and the internet influence credibility perceptions of weblogs among blog users. Journalism & Mass Communication Quarterly, 81(3), 622–642.

Joinson, A. N. (2008, January). Looking at, looking up or keeping up with people? Proceeding of the twenty-sixth annual CHI conference on human factors in computing systems – CHI ’08 (p. 1027). doi:10.1145/1357054.1357213

Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. Computers and Education, 58(1), 162–171. doi:10.1016/j.compedu.2011.08.004

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in social media research: Past, present and future. Information Systems Frontiers, 20(3), 531–558.
Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly, 37*(4), 509. doi:10.1086/268109

Khan, A. (2018). A study of social information seeking (SIS) among LIS research scholars in Pakistan. *Publications, 6*(1), 3. doi:10.3390/publications601003

Khang, H., Ki, E. J., & Ye, L. (2012). Social media research in advertising, communication, marketing, and public relations, 1997-2010. *Journalism and Mass Communication Quarterly, 89*(2), 279–298. doi:10.1177/1077699012439853

Kim, Y., Sohn, D., & Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior, 27*(1), 365–372. doi:10.1016/j.chb.2010.08.015

Korda, H., & Itani, Z. (2013). Harnessing social media for health promotion and behavior change. *Health Promotion Practice, 14*(1), 15–23. doi:10.1177/1524839911405850

Kroeber, A. L., & Kluckhohn, C. (1963). *Culture: A critical review of concepts and definitions*. New York: Vintage/Random House.

Lin, K., & Lu, H. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior, 27*(3), 1152–1161. doi:10.1016/j.chb.2010.12.009

Loader, B. D., & Mercea, D. (2011). Introduction networking democracy? Social media innovations and participatory politics. *Information, Communication & Society, 14*(6), 757–769. doi:10.1080/1369118X.2011.592648

Maccallum, R. C., & Widaman, K. F. (1999). Sample size in factor analysis. *Psychological Methods, 4*(1), 84–99.

McMillan, J. H., & Schumacher, S. (2014). *Research in education: Evidence-based inquiry*. Harlow: Pearson.

Mehmood, S. (2013). The effects of social networking sites on the academic performance of students in college of applied sciences, Nizwa, Oman. *International Journal of Arts and Commerce, 2*(1), 111–125.

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons’ responses and performances as scientific inquiry into score meaning. *American Psychologist, 50*(9), 741–749. doi:10.1037/0003-066X.50.9.741

Mirani, M. (2011). Motives for students using social networking sites: Findings from Sukkur, Pakistan. *Ipedr.Com, 22*, 134–136. Retrieved from http://www.ipedr.com/vol22/26-ICEBM2011-M10029.pdf

Mitchelstein, E., & Boczkowski, P. J. (2009). Between tradition and change: A review of recent research on online news production. *Journalism: Theory, Practice & Criticism, 10*(5), 562–586. doi:10.1177/14648809106553

Nunnally, C. J., & Bernstein, H. I. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill, Inc.

Oestreicher-Singer, G., & Zalmanson, L. (2013). Content or community? A digital business strategy for content providers in the social age. *MIS Quarterly, 37*(2), 591–616.

Olufadi, Y. (2015). A configurational approach to the investigation of the multiple paths to success of students through mobile phone use behaviors. *Computers and Education, 86*, 84–104. doi:10.1016/j.compedu.2015.03.005

Orosz, G., Tóth-Király, I., & Bőthe, B. (2016). Four facets of Facebook intensity — The development of the multidimensional Facebook intensity scale. *Personality and Individual Differences, 100*, 95–104. doi:10.1016/j.paid.2015.11.038

Palmgreen, P., Wenner, A. L., & Rayburn, J. D. (1980). Relations between gratification sought and obtained: A study of television news. *Communication Research, 7*(2), 161–192.

Panek, E. T., Nardis, Y., & Konrath, S. (2013). Defining social networking sites and measuring their use: How narcissists differ in their use of Facebook and Twitter. *Computers in Human Behavior, 29*(5), 2004–2012. doi:10.1016/j.chb.2013.04.012

Pantic, M. (2017). *Uses and gratifications of digital media: the case of live blogs* (PhD dissertation). University of Tennessee.

Papacharissi, Z., & Rubin, A. M. (2000). Predictors of Internet use. *Journal of Broadcasting & Electronic Media, 44*(2), 175–196. doi:10.1207/s15506878jobem5003
Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students’ social networking experiences on Facebook. *Journal of Applied Developmental Psychology, 30*(3), 227–238. doi:10.1016/j.appdev.2008.12.010

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health, 30*, 459–467. doi:10.1002/nur

Pornsakulvanich, V., & Dumrongsi, N. (2013). Internal and external influences on social networking site usage in Thailand. *Computers in Human Behavior, 29*(6), 2788–2795. doi:10.1016/j.chb.2013.07.016

Rehman, M., Irem, K., & Ilyas, M. (2014). Research and emerging sciences social media: A prospective or a Dilemma the case of Pakistan. *International Journal of Management, 7*(1), 47–68. Retrieved from https://superior.edu.pk/wp-content/uploads/2017/04/paper-3-2014.pdf

Rosen, L. D., Whaling, K., Carrier, L. M., Cheever, N. A., & Rokkum, J. (2013). The media and technology usage and attitudes scale: An empirical investigation. *Computers in Human Behavior, 29*(6), 2501–2511. doi:10.1016/j.chb.2013.06.006

Ross, C., Orr, E., Sisic, M., Arseneault, J. M., & Simmering, M. G. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior, 25*(2), 578–586. doi:10.1016/j.chb.2008.12.024

Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass Communication and Society, 3*(1), 3–37. doi:10.1207/S15327825MCS0301_02

Saleem, N., Malik, Q., Ali, A., & Hanan, A. (2014). *Influence of social networking sites on interaction patterns of youth: A Pakistan case*. Retrieved from point cantik mana tau

Shabir, G., Iqbal, Y. W., & Safdar, G. (2014). Demographics ‘differences in social networking sites use: What communication motives does it gratify? *International Journal of Social Work and Human Services Practice, 2*(5), 184–194.

Shao, G. (2009). Understanding the appeal of user-generated media: A uses and gratification perspective. *Internet Research, 19*(1), 7–25. doi:10.1108/1062240910927795

Sheldon, P. (2008). The relationship between Unwillingness-to-communicate and students’ Facebook Use. *Journal of Media Psychology, 20*(2), 67–75. doi:10.1027/1864-1105.20.2.67

Shi, Y., Luo, Y. L. L., Yang, Z., & Liu, Y. (2014, June). The development and validation of the social network sites (SNSs) usage questionnaire conference. In *International conference on social computing and social media* (pp. 113–124). Cham: Springer.

Sigerson, L., & Cheng, C. (2018). Scales for measuring user engagement with social network sites: A systematic review of psychometric properties. *Computers in Human Behavior, 83*, 87–105. doi:10.1016/j.chb.2018.01.023

Sørensen, L., Porras, J., Hajikhani, A., & Hayar, A. (2014). A user perspective on social networking sites. *Wireless World Research Forum, 13*.

Stendal, K., Thapa, D., & Lanamaki, A. (2016). Analyzing the concept of affordances in information systems. *Proceedings of the annual Hawaii international conference on system sciences, 2016–March (June 2018)* (pp. 5270–5277). doi:10.1109/HICSS.2016.651

Tariq, K., Tariq, R., Hussain, A., & Shahid, M. (2018, June). Smartphone usage and its applications among school going children (5–16 years) in Lahore, Pakistan. *Journal of Ecophysiology and Occupational Health, 18*, 52–58. doi:10.18311/jeoh/2018/20017

Tess, P. A. (2013). The role of social media in higher education classes (real and virtual) – A literature review. *Computers in Human Behavior, 29*(5), A60–A68. doi:10.1016/j.chb.2012.12.032

van Osch, W., & Coursaris, C. K. (2014). Social media research: An assessment of the domain’s productivity and intellectual evolution. *Communication Monographs, 81*(3), 285–309. doi:10.1080/03637751.2014.921720

Vasalou, A., Joinson, A. N., & Courvoisier, D. (2010). Cultural differences, experience with social networks and the nature of “true commitment” in Facebook. *International Journal of Human-Computer Studies, 68*(10), 719–728. doi:10.1016/j.ijhcs.2010.06.002

Weiser, E. B. (2002). The functions of internet use and their social and psychological consequences. *CyberPsychology & Behavior, 4*(6), 723–743. doi:10.1089/109493101753376678
Williams, B., Onsman, A., & Brown, T. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine Australasian Journal of Paramedicine Journal of Emergency Primary Health Care (JEPHC)*, 8(3), 1–13.

Winter, N., & Fleenor, J. W. (2006). John w. fleenor, 59(4).

Wolf, M., Sims, J., & Yang, H. (2018). Social media? What social media?

Wolfsfeld, G., Segev, E., & Sheafer, T. (2013). Social media and the Arab spring: Politics comes first. *The International Journal of Press/Politics*, 18(2), 115–137. doi:10.1177/1940161212471716

Yang, C. C., & Brown, B. B. (2013). Motives for using Facebook, patterns of Facebook activities, and late adolescents’ social adjustment to college. *Journal of Youth and Adolescence*, 42(3), 403–416. doi:10.1007/s10964-012-9836-x

Yang, Y., Li, P., Fu, X., & Kou, Y. (2017). Orientations to happiness and subjective well-being in Chinese adolescents: The roles of prosocial behavior and internet addictive behavior. *Journal of Happiness Studies*, 18(6), 1747–1762. doi:10.1007/s10902-016-9794-1

Zeller, R. A., & Carmines, E. G. (1980). *Measurement in the social sciences: The link between theory and data*. Cambridge: Cambridge University Press.