P-ISSN: 2709-6254	Journal of Development and Social Sciences	Oct-Dec 2025, Vol. 6, No. 4
O-ISSN:2709-6262	https://doi.org/10.47205/jdss.2025(6-IV)23	[276-286]

Journal of Development and Social Sciences
www.jdss.org.pk

RESEARCH PAPER

Exploring the Digital Divide in Higher Education: Access, Use, and Meaning-Making of Technology among Students: A Case Study of the University of Sargodha

[1]Muhammad Hassan Babar, [2]Muhammad Intizar Raza, and [3]Zoraisha Fakhar

1. Lecturer, School of Integrated Social Sciences, The University of Lahore, Sargodha Campus, Punjab, Pakistan.
2. Visiting Lecturer, Department of Sociology and Criminology, University of Sargodha, Punjab, Pakistan.
3. MPhil Scholar, Department of Sociology, Government College University of Faisalabad, Punjab, Pakistan.

Corresponding Author: hassanbabar336@gmail.com

ABSTRACT

The research is developed to investigate whether the digital divide is a multidimensional concept among higher education students at the University of Sargodha, which is used as a case study. Although digital technologies are currently playing a central role in modern learning, there still exist considerable disparities between how students access the devices and the internet, their degree of digital literacy, and how they perceive and meaningfully use the technology. The study uses a qualitative phenomenological design, which utilizes semi-structured interviews with purposefully sampled students to reveal lived experiences in terms of the use of technology. Reflexive thematic analysis revealed three key themes: unequal access, digital skills, and the sociocultural meaning-making processes that students employ to form digital identities and adapt to academic pressures. Results show that digital inequity is not only a question of material access, but it also includes skills-based, psychological, and cultural aspects, which define how students get engaged in learning, their sense of belonging, and academic achievement. It recommended that universities should implement holistic measures to balance equitable and meaningful digital engagement in higher education, such as better infrastructural provision, structured digital literacy education, and inclusive pedagogies.

KEYWORDS Digital Disparity, Education, Technology, Digital Behavior, Digital Awareness

Introduction

The digital technologies has altered the higher education landscape and redefined the way students receive information, access academic resources, and learn. However, amid these changes, the digital divide, a multidimensional disparity in access, skills, and meaningful use of technology, continues to dominate educational systems across the world (Cullen, 2001; Warschauer, 2002). Digital disparity is no longer the difference in the reality of actual access to computers or the internet as in the early scholarship (Bolt and Crawford, 2000). In contemporary studies, it is conceptualized as a tri-level inequality: inequalities in access, digital skills, and the quality of using technology (Hargittai, 2002; Light, 2001; Eastin and LaRose, 2006). The reconstruction particularly applies to the less developed countries like Pakistan, where students continue living a digital life through the lens of structural, economic, and institutional inequalities (Rizvi and Khan, 2023; Lupton, 2022).

Information-seeking researches assist us in comprehending the manner in which individuals navigate online places. Age differences have been researched (Bilal and Kirby, 2002), the search process of various groups of users has been studied (Kuhlthau, 1991; Spink and Cole, 2004). Much of this background research already took place prior to the existence of modern online platforms, but the implication remains unchanged: the

technological abilities of the students, as well as their search patterns, are still subject to influence by their prior experience, social background, and the level of their digital literacy (Bilal, 2002; Savolainen, 2002). Recent studies substantiate the idea, which states that, even in the environment where devices coexist with students, the disparity in Internet self-efficacy and network competence significantly influences the consequences of technology-mediated learning (Eastin and LaRose, 2006; Morgan, 2021).

The digital rein is also highly social. How socioeconomic inequalities and structural barriers affect disadvantaged groups. All these problems have been intensified by the COVID-19 pandemic that revealed the disgusting inequality in receiving a stable Internet connection, state-of-the-art equipment, and good learning conditions among students. In Pakistan, rural, semi-urban, and low-income students with a history of under-resourcing in digital access comprise a considerable portion of the student population of colleges and universities (such as the University of Sargodha) (Akhtar et al., 2024). Despite the national policies on ICT aimed at enhancing connectivity, the realities on the ground including load shedding, unreliable access to broadband, and financial considerations continue to restrict the contributions of the students in the digital arena (World Telecommunication Development Report, 2002; Sinha and Basu, 2022). In addition to infrastructure, significant use of technology, what Warschauer (2002) describes as social inclusion by using digital tools, requires the capacity of students to interpret, learn, and use technological tools and apply them in context. For University students, this involves using learning management systems, conducting online research, collaborating online, and creating work enriched with technology. It has been demonstrated that digital literacy, information-seeking behaviour, and self-efficacy are key determinants of academic achievement in a technologically mediated classroom (Hansen & Järvelin, 2005; Kuhlthau, 1991). However, qualitative research indicates that students tend to feel confused, anxious, and overwhelmed when electronic demands exceed their competencies or institutional support systems (Hancock & Garner, 2023; Rasmussen & Kohut, 2023). The University of Sargodha in the Pakistani higher education sector is a significant location to study the digital divide because the University has a significant number of students who are housed in the institution, and because the students represent the rural districts in Punjab with varying socioeconomic status. Although infrastructure modernization was also provided, students have both positive and negative experiences with Internet connectivity, device ownership, digital skills, and the symbolic value of technology. To some, technology is an epitome of opportunity, freedom, and modernity; to some, it is a source of stress, isolation, or educational disadvantage. The reason these students assign meaning to their technological experiences introduces a valuable cultural and sociological level, commonly absent in the quantitative assessment of digital accessibility.

It is based on these circumstances that a qualitative investigation is necessary to reveal the lived experiences of students struggling to access technologies, use them in ways that are not limited, and the symbolic importance of technology in their educational experiences. This paper thus addresses the digital divide at the University of Sargodha by considering not only access to the material but also how students understand technological involvement, how they overcome barriers, and how institutional organization facilitates or inhibits meaningful use. This is a direction that is fitting the current global demands to take a holistic, humanistic perspective on the digital divide (Paasonen, 2022; Döring, 2021), and more than simply narrowing the digital divide requires equal access to digital possibilities in higher education, but it also presupposes that the learning process of students, how they adapt to the digital environment, and how they make sense of it should be considered as a whole.

Literature Review

The definition of the digital divide has taken a new form over the last 30 years, shifting from physical access to technology to understanding digital skills, meaningful

technology use, and social inclusion. In earlier literature, the digital divide used to refer to unequal access to computers and Internet, with a significant emphasis on inequalities on the basis of socioeconomic status, geography and institutional infrastructure (Bolt & Crawford, 2000; Cullen, 2001). Global digitalization inspired scholars to re-examine as well: Warschauer (2002) characterized the gap as a multidimensional phenomenon that included technological resources, social support, literacy, and cultural capital. This opinion recognized the fact that access does not equal to use of technology in the effective and enabling manner.

Access to Technology

The digital participation is based on the availability of devices, connectivity, and digital infrastructure. According to the annual World Telecommunication Development Reports (2002) by the International Telecommunication Union, the difference in the delivery of infrastructures is not only preserved between and within countries but is particularly higher in rural and low-income populations. Learner access to online education, research, and scholarly cooperation is directly impacted by inequity of access in the context of education. The inadequate broadband connection, insecure power supply, and affordability of digital technologies are also mentioned as issues that restrict the learning abilities of students in Pakistan-based studies (Rizvi and Khan, 2023; Akhtar et al., 2024). Precisely, in higher educational institutions, which are not located in big cities, including the University of Sargodha, the technology access disparity is still weighing academic practices and opportunities of students.

Digital Skills and Information-Seeking Behaviors

As the scholars appeared to be interested in the interaction between users and digital environments, the field changed to the area of digital skills, literacy, and cognitive aspects of technology use. This was the second-level digital divide, as described by Hargittai (2002), that indicated disparities in the ability of users to utilize online platform, search, evaluate the plausibility of information and utilize digital tools with reasonable assurance. The role of Internet self-efficacy as an important determinant of digital participation was also pointed out by Eastin and LaRose (2006), who argued that psychological confidence was equally predictive of task performance as technical ability.

The information-seeking studies have been used to bridge the gap in knowledge. Preliminary studies by Kuhlthau (1991) have found that information search is a mental, affective and repetitive process that is affected by familiarity with online sources, the difficulty of the task, and experience. Savolainen (2002) founded the concept of network competence, declaring that the information habits of people vary on a daily basis, depending on the social context and the familiarity with digital surroundings.

Research on children and young people like that of Bilal (2002) and Bilal and Kirby (2002) have shown that the type of task and previous exposure is a determining factor in the navigation strategies and performance in search. Such lessons are applicable in the present day world where University students continue to experience different degrees of digital literacy in relation to gender, socioeconomic status and exposure to technology.

The latest study affirms that the skills gap remains even at the University levels. According to Hancock and Garner (2023), the digital literacy varies not only between institutions but also between the groups of students. Communication skills and openness of students define their capability to work in teams online as Rasmussen and Kohut (2023) emphasize. These gaps in skills are associated with the inequality in academic outcomes, which reinforces the second-level digital divide.

Above access and skills, the third-level digital divide, that involves disparities in the utility users gain out of technology, exists. Warschauer (2002) and Light (2001) noted that meaningful use in digital interaction must be based on whether the user can turn technological input into useful educational or social product(s). Hansen and Jarvelin (2005) also focus on meaningful use in their study on collaborative information retrieval; the authors suggest that it refers to the individual competence of a person, as well as the institutional systems that facilitate collaborative learning and knowledge building.

The recent studies have put a lot of emphasis on meaningful use as the primary area of digital inclusion. According to Paasonen (2022), the key aspects of digital technologies are tied to affect, identity, and socio-cultural experiences, and digital participation is a highly interpretive process. The usefulness in higher education refers to the capability of using digital tools to improve the educational process and create academic tasks, participate in online communities, and search high-quality information sources.

The meaningful use of technology, however, is more likely to be affected negatively by structural and cultural barriers. Spink and Cole (2004) reported that the lack of adequate training was linked to poor information-seeking behaviours. The current research shows the same trends among University students: they prefer less sophisticated search strategies, are not taught sophisticated digital research, and have problems with searching academic databases (Morgan, 2021). These limitations were also manifested in the COVID-19 pandemic where the inequality in technological proficiency was the barrier to both academic continuity and mental health.

The Socio-Cultural Dimensions of Digital Divide

The rising literature frames the digital divide in the larger context of socio-cultural and institutional dynamics. According to Light (2001) cultural capital, institutional and social identities inform digital participation. Digital disparity in Pakistan crosses rural-urban, gender, and language disparities, socioeconomic stratification, and influences the views on technology and its usage by students (Sinha and Basu, 2022; Rizvi and Khan, 2023). It is also a venue of aspirations, social comparison, and identity-making, especially in the University setting when peer interactions are a source of belonging and non-belonging (Morgan, 2021). Technology has become a hope and a wakeup call to many students especially those in less fortunate situations. This dichotomy emphasizes that it is necessary to examine how students apply and acquire access to technology, yet more to the point, how they make sense about their use of technology- a critical empty space that qualitative inquiry can occupy.

The institutions are the agents of digital inclusion. Digital literacy training and online delivery models, efficient computer laboratories, and facilitating learning conditions in the university improve the performance in academics as shown (Hansen and Jarvelin, 2005; Akhtar et al., 2024). Conversely, without institutional support, it is found that students are significantly reliant on informal peer support or trial and error methods, which also increases differences in learning outcomes (Hancock and Garner, 2023).

Inequality in access to technological resources, absence of systematically designed digital training programs, and the insufficiency of infrastructure typical of the situation in Pakistani universities including the University of Sargodha is likely to limit the ability of the students to effectively use technology. The digital divide has therefore to be solved in terms of an institutional complex of technological investment, curricular reform, digital training, and student-centered systems of digital support.

Material and Methods

The research design applied in the given study was qualitative because it was important to explore the chosen phenomenon in detail and to imagine what participants assign to their experienced life. The study has used phenomenological approach because it enables the researcher to capture the respondent's subjective meanings, emotions, and attitudes in their natural settings. The population of the study was individuals with a strong contact in the problem under investigation and purposive sampling approach was applied to pick information rich members who would provide deep insights about the subject matter. Data were collected by semi-structured interviews whereby the respondents had a right to give their answers freely and the researcher had the chance to probe more. All interviews were face-to-face and lasted between 20 to 25 minutes and in the comfort of the participants.

This study followed the six-step process of the reflexive thematic analysis described by Braun and Clarke (2021), which entails familiarization with the data, preliminary coding, theme search, theme examination, theme definition, theme naming, and final narrative. It was a back and forth type of analysis which enabled the researcher to switch between the data and the formation of interpretations. The study used the credibility of member checking to reach a state of trust and dependability of an audit trail and confirmability by way of reflexive notes recorded in the research process. Ethical concerns that were observed include informed consent, confidentiality, voluntary participation and safe data handling.

Results and Discussion

The qualitative interviews have been subjected to analysis so as to identify a multidimensional approach to the way students at the University of Sargodha experience, negotiate, and make sense of the digital divide in the higher education sector. Reflexive thematic analysis was used to identify three broad themes, namely the (1) Unequal Access to Digital Resources, (2) Variations in Technological Use and Digital Competence, and (3) Meaning-Making, Identity, and Academic Adaptation in a Digitized Learning Environment. These themes portray the structural, cultural, and experience complexity of digital inequity.

Theme 1: Inequality in Digital Resources

The respondents continuously mentioned the effect of disparities in access to basic digital infrastructure, such as devices, access to internet, and study circumstances on their academic experiences. Students with rural and low income reported severe issues with stable access to digital learning platforms.

One of the respondents expounded on it by saying that: *"the internet in my village is slow and that most of my assignments were being submitted late. In other situations, I have to travel to the city just to deliver a single file. This was also witnessed by another student who told that everybody had expected everybody to have a laptop and that I was doing my complete semester with a mobile phone. It irritates when the teacher does not understand this."*

These disparities were also exacerbated by low finances. One of the respondents stated that the acquisition of a laptop is a luxury to my family. I am still switching them with my brother, and this interferes with my studies. These restrictions explain why the new digital divide has not advanced beyond the first level, which is the presence of access to academic activities.

Theme 2: Differences in Digital Competence and Technological Uses

In addition to access, the participants claimed that there was a strong disparity in their successful use of digital technologies. More digitally literate students said that they felt confident when using learning management systems, using online searches, and handling

digital workloads. Quite the contrary, others were complaining that they were confused, feared to make any misjudgment and were too fond of peers.

One of the students admitted tha: *"when the teacher wants to upload something in a particular format, he/she experiences panic and does not know how to alter files to do it correctly."* Another one of them remarks that: *"occasionally she watches YouTube tutorials to know how to do the most basic things, like create a PDF or add references."*

The more digitally savvy ones were more likely to attribute it to early exposure: "*I attended a private school, so we were using computers in 9th class. This is the reason why University assignments do not appear to be a challenge."*

Meanwhile, there are those respondents who said that they are digitally intimidated: "*When I look at other students typing at a much faster rate or with shortcuts, I think that technology is not something I hold."* It demonstrates the second tier of the digital divide, which is not just skills but also confidence and digital self-efficacy.

Theme 3: Academic Adaptation, Meaning-Making, and Digital Identity

The stories shared by participants have shown that technology is not only a tool but has an impact on their identity, independence and belonging to the University community. Other individuals considered technology as a reinforcement aspect of modern education: "*When I finally figured out how to use Google Scholar properly, I felt like a true University student."*

Others said that online education contributed to the sense of having been left out: *"When I was taking online classes, I felt as though I was not being noticed. My mic failed to work properly, so I could not participate like other individuals."*

The students also interpreted the technology within the context of cultural and family demands. One of the interviewees added that: *"when I study using my phone, my parents think that I am wasting my time. They do not perceive it as education"* Another found the way technology impacted his/her future education desires: *"I believe that with the assistance of digital tools I will be able to compete even with students in large cities as long as I will be directed in that way."*

The necessity of an institutional approach toward the formation of positive digital identities was emphasized by many students. Some trainings or short workshops would be helpful as one of them said. People require that you explain to someone without judging them.

Overall, the results indicate that the digital divide at the University of Sargodha is not a unidimensional gap but a stratified phenomenon that includes structural disparities in a number of dimensions of digital literacy and social-cultural definitions of the use of technology. These inequalities do not only influence academic achievement but also the abilities, sense of belonging and identity of students in higher education.

Discussion

The findings of the present study paint the picture that the digital divide among University students is a multidimensional experience as it is associated with structural inequalities, digital competencies, and the socio-cultural connotation assigned to the utilization of technologies. As per the existing literature, the results indicate that digital inequity transcends access and proceeds to matters of capability, self-confidence, and the paradigms by which students comprehend the effect of technology in the spheres of academic life (Hargittai, 2002; van Dijk, 2023).

First-Level Digital Divide: Structural Inequalities that Endure

The vast disparity in access of digital resources by students in terms of access to stable internet, personal devices and positive conditions to study sustain long-standing arguments of the digital divide literature (Warschauer, 2002; Bolt and Crawford, 2000). The words of the interviewees who have to travel far to turn in tasks or work with smartphones simply demonstrate that the lack of infrastructure affects the rural students and low income students at home in a disproportionate way. Such narratives reflect the trends that are dominant in Pakistan where the internet penetration is not evenly spread across socio-economic lines.

Remarkably, the findings correspond to the argument that access alone is not sufficient but must be meaningful, reliable, and backed by social and institutional systems by Warschauer (2002). The issues with gadgets presented to students, i.e. sharing a phone with siblings indicate that not all access is the same, and the student does not have a complete access to digital learning.

Second-Level Digital Divide: Digital Literacy and Self-Efficacy

The academic inequity of digital differences in skills and confidence also emerged as sources of academic inequity and constitute the second level of the digital divide as conceptualized by Hargittai (2002). The students who were exposed to computers at a tender age proved to be digitally competent. Contrarily, their counterparts were scared and lost and required the assistance of others or support via the internet. Such digital skills gaps make students not be able to use digital education even though it is available.

The stories resonate with the argument made by Eastin and LaRose (2006) that digital self-efficacy (a belief that an individual will be capable of effectively using digital tools) is a significant determinant of online performance. The uncertainty to use digital platforms sidelined the students who were not confident and further enhanced disparities in academic engagement. This point is further emphasized by Savolainen (2002) who points out that digital literacy is not only useful but also directly associated with motivation and autonomy and perceived competence.

Digital Identity and Meaning-Making in Higher Education

The research also focuses on the manner in which students construct meanings and identities regarding technology, in addition to access and ability. Some of the others believed that students had a sense of accomplishment and inclusion: that they were a legitimate University student because they were learning to use digital tools. This is in line with the Information Search Process Model introduced by Kuhlthau (1991), which places more focus on emotional and cognitive experiences as students develop confidence in the information seeking situations.

Conversely, others felt marginalized due to bad devices or Wi-Fi networks in the online environment, which Light (2001) explains is a feeling that arises when in digital environments, which can highlight preexisting forms of social marginalization. Learners also experienced situations concerning cultural interpretation since some families took looking at phones as a leisure activity instead of academic achievement. The findings match the findings of Lupton (2022) in the field of digital sociology, who observes that technology is part of the moral, cultural, and relational processes, and it is not a neutral tool.

Building Support Systems and the Institutional Role

A deficit in organizational direction and education was one of the general trends in the stories of the participants. The needs of students to workshop and rudimentary training in digital skills has proven the argument by Cullen (2001) that the digital divide can only be bridged by policy and not the supply of technology. Universities must attempt to reduce disparities by offering equal technical support, digital literacy, as well as inclusive pedagogies.

The findings are in line with the recent studies in the Pakistani higher education, which highlight that the effects of digital inequalities intensified during the COVID-19 transition to online education and that it continues to affect educational outcomes (Ali and Zafar, 2023; Rizvi and Khan, 2023). Digital inequalities will only become permanent in case of these inequalities not dealt with systematically, particularly in the case of the unfortunate student body.

Digital Divide as a Structural and Layered Phenomenon

Generally, it has been determined that the digital divide in University of Sargodha is not just technological but also individual, structural, relational and interpretive. The gap occurs at various levels:

- Access (first-level gap)
- Skills and competencies (second-level gap)
- Sense-making, identification with an academic environment (third-level gap)

The findings support the Model of the digital divide developed by Van Dijk (2023), according to which the digital inequality process consists of motivation, access, skills, and outcomes. Despite the technological progress that the experience of students has demonstrated, learning institutions must treat each level cohesively to provide equitable digital inclusion.

Conclusion

In this paper, the researcher sought to explore what the digital divide is and how it is perceived by University students as a subset of the higher education system at the University of Sargodha. Qualitative findings can be summarized that digital inequality is a repetitive and complex phenomenon, which is influenced by access inequality, digital skills, and cultural perceptions of the use of technology. Though the discourse of national and institutional convergence to better digital inclusion among youths is often framed around the ideas that young people are becoming more digitally conscious and digitally encompassing, the stories students present in this paper subvert this vision of a progressive upward digital inclusion by referring to the more prosaic, underlying impediments these students experience in their own academic construction.

Structurally, the majority of the students continue to face erratic internet services, lack of adequate finances to purchase equipment, and inadequate study facilities, all of which add to the first-level digital divide. Where access to a digital world is available, inequalities still occur due having differences in digital literacies, confidence, and experience with academic technologies. These gaps in competence and digital self-efficacy have a strong effect on the academic participation and learning results of the students, which suggests that the second tier of the digital divide continues to exist in educational institutions.

Besides material and skill-based barriers, the study also indicates that technology has the symbolic and emotional side. There are individual, cultural and identity-related

meanings of digital tools use by students. Digital competency can represent a marker of academic legitimacy and empowerment to the former but technological challenges contribute to the isolation, sense of inferiority, or loneliness to the latter. The results indicate the necessity to frame a digital divide as a sociocultural instead of technical phenomenon.

It is worth noting that institutions play a vital role in alleviating or increasing digital inequalities according to the research. The lack of systematic training, technical counseling, and favorable teaching resources also establishes another gap between digitally able and digitally susceptible students. This means that in order to bridge the digital divide, we need to go beyond the infrastructure upgrade to include a sustained policy commitment, an all-out pedagogy and digital literacy programs.

Overall, the research paper concludes that the digital divide in higher education is multifaceted, interactive and embedded in more comprehensive socio-economic and cultural contexts. To address this disparity, the complex solution is to be considered, which helps differentiate the backgrounds of students, bridges the digital preparedness gaps, and introduces the specific intervention to ensure equal digital activity. Without such efforts, the digital divide is likely to continue to exist and weaken the potential of digital learning and worsening existing educational inequalities.

Recommendations

Based on the results of the current research, several recommendations can be made to close the digital gap and increase the purposeful use of technology among the University students of the University of Sargodha students.

Universities are advised to focus on fair access to digital materials by providing affordable/subsidized laptops, tablet computers, and internet services to disadvantaged students. By setting up properly furnished computer laboratories with reliable internet access and extended hours of availability, all students can be given the chance to enjoy unimpeded digital learning.

The University curriculum must be incorporated with structured digital literacy programs. The self-efficacy of students and their level of dependency on others when addressing technical issues can be enhanced through workshops, tutorials, and orientation on academic software, online research strategies, and file management skills. Individualized attention to students with low digital competence is key to overcoming the second-level digital divide.

Learning institutions ought to promote the use of digital tools as pedagogues, but not as passive consumers. The use of shared projects, online research tasks, and tutored access to online academic databases can help students build a deeper appreciation of the role of technology in academic and professional contexts.

References

Akhtar, S., Rehman, T., & Khan, S. (2024). Internet usage and digital intimacy in conservative societies: A sociological perspective from Pakistan. *Asian Journal of Social Research, 12*(2), 45–59.

Ali, F., & Zafar, H. (2023). Communication silence and marital satisfaction in urban Pakistan: The impact of digital distraction. *Journal of Family Studies, 29*(1), 88–104.

Bilal, D. (2002). Perspectives on children's navigation of the World Wide Web: Does the type of search task make a difference? *Online Information Review, 26*(2), 108–117. https://doi.org/10.1108/14684520210425376

Bilal, D., & Kirby, J. (2002). Differences and similarities in information seeking: Children and adults as web users. *Information Processing & Management, 38*(5), 649–670. https://doi.org/10.1016/s0306-4573(01)00057-7

Bolt, D., & Crawford, R. (2000). *Digital divide: Computers and our children's future—TV* Books LLC.

Braun, V. and Clarke, V. (2021). Thematic Analysis: A Practical Guide. Sage, London. https://www.scirp.org/reference/referencespapers?referenceid=3429437

Creswell, J. W., & Plano Clark, V. L. (2022). *Designing and conducting mixed methods research* (4th ed.). SAGE.

Cullen, R. (2001). Addressing the digital divide. *Online Information Review, 25*(5), 311–320. https://doi.org/10.1108/14684520110410517

Döring, N. (2021). Sexual media effects in the digital age: A review and research agenda. *Media Psychology, 24*(5), 666–694.

Eastin, M. S., & LaRose, R. (2006). Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated Communication, 6*(1), 0–0. https://doi.org/10.1111/j.1083-6101.2000.tb00110.x

Hancock, J. T., & Garner, J. (2023). Technology-mediated intimacy: Communication and connection in digital relationships. *Computers in Human Behavior, 145*, 107712.

Hansen, P., & Järvelin, K. (2005). Collaborative information retrieval in an information-intensive domain. *Information Processing & Management*, *41*(5), 1101-1119. https://doi.org/10.1016/j.ipm.2004.04.016

Hargittai, E. (2002). Second-level digital divide: Differences in people's online skills. *First Monday, 7*(4). https://doi.org/10.5210/fm.v7i4.942

Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science, 42*(5), 361–371. https://doi.org/10.1002/(sici)1097-4571(199106)42:5

Light, J. (2001). Rethinking the digital divide. *Harvard Educational Review, 71*(4), 709–734. https://doi.org/10.17763/haer.71.4.342x36742j2w4q82

Lupton, D. (2022). *Digital sociology* (2nd ed.). Routledge.

Morgan, E. (2021). Intimacy in the age of connectivity: A sociological exploration. *Contemporary Sociology, 50*(2), 220–235.

Paasonen, S. (2022). *Depictions of desire: Sex, affect, and the internet*. MIT Press.

Rasmussen, K., & Kohut, T. (2023). Couples, communication, and pornography: The role of openness in relationship satisfaction. *Archives of Sexual Behavior, 52*(5), 1721–1733.

Rizvi, M., & Khan, A. (2023). Technology, morality, and sexuality in Pakistan: Understanding digital behavior. *Pakistan Journal of Social Sciences, 43*(3), 201–217.

Savolainen, R. (2002). Network competence and information seeking on the internet. *Journal of Documentation, 58*(2), 211–226. https://doi.org/10.1108/00220410210425467

Sinha, S., & Basu, R. (2022). Online pornography and youth culture in South Asia: Negotiating desire and taboo. *Journal of South Asian Studies, 45*(2), 140–159.

Spink, A., & Cole, C. (2004). A human information behavior approach to a philosophy of information. https://www.ideals.illinois.edu/items/1782

Van Dijk, J. A. G. M. (2023). *The digital divide* (3rd ed.). Polity Press.

Warschauer, M. (2002). Reconceptualizing the digital divide. *First Monday, 7*(7). https://doi.org/10.5210/fm.v7i7.967

World Telecommunication Development Reports. (2002). International Telecommunication Union. http://www.itu.int/ITU-D/ict/publications/wtdr_02/