Article

Level and Association of the General Public Knowledge and Attitude on the Role of Technology in Human Trafficking: A Quantitative Study of Pakistan

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Abstract: Human trafficking activities have shifted from conventional methods to online platforms. This was a first-of-its-kind study that employed a quantitative cross-sectional study design to determine the level of general public knowledge and attitude, as well as the association between knowledge and attitude on the role of technology in human trafficking in Pakistan. For this study, a self-administered survey questionnaire was used to collect data from 443 participants from two provinces of Pakistan, namely Punjab and Khyber Pakhtunkhwa. The sample size was derived using the Raosoft online sample calculator and multi-stage sampling technique with inclusion and exclusion criteria. The data were analyzed using SPSS, employing descriptive statistics and Pearson correlation coefficient analysis. The results reveal that the majority of participants had a low level of knowledge, while their level of attitude was high on the use of technology in human trafficking. The result of the association between knowledge and attitude shows a strong correlation between knowledge and attitude. This study aims to significantly advance the understanding of this topic among academics, policymakers, and related security agencies through participation and collaboration with members of the local community. The stakeholders must leverage social media platforms to raise awareness about the ways in which human traffickers exploit technology. The findings of this study are also anticipated to enable the international community to achieve the UN Sustainable Development Goals (SDGs 2030), to focus on this new emerging issue to combat online human trafficking and safeguard the general public.

Keywords: Human trafficking; technology; knowledge; attitude; the general public; Pakistan

Introduction

Human trafficking ranks as the third most prevalent crime after armed and drug trafficking around the globe (Cameron et al., 2020; Williams, 2018). The United Nations defines human trafficking as "The recruitment, transportation, transfer, harboring or receipt of persons, using the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation" (United Nations Office on Drugs and Crime, 2014, p.15). Each year,

the business of human trafficking earns billions of US dollars and places millions of individuals, including men, women, and children, in various vulnerable situations, such as sexual exploitation, forced labor, forced marriages, and other related activities (Bryant & Landman, 2020; Olubukola, 2020; Yesufu, 2020). For example, the Walk Free (2023) reported that every year more than 150 US billion dollars is generated from the human trafficking industry, and in 2021, there were around 49.6 million recorded victims a startling rise of 10 million from 2016 (Khan et al., 2023; Walk Free, 2023). The victims are put in a vulnerable situation by several causes, including but not limited to poverty, unemployment, globalization, corruption, natural and man-made calamities, and ignorance (Kleden & Atti, 2019). Similarly, vulnerable victims are experiencing significant social, physical, and psychological repercussions (Macy et al., 2021).

Human trafficking operations have moved from conventional methods to online platforms due to the industry's rapid transition in information and communication technologies (Konrad et al., 2023). The rise of the Internet and social media platforms plays an essential part in human trafficking, operating as a tool that traffickers use and a resource that law enforcement can use to stop these illegal activities (Olisah et al., 2024). These advancements in the information communication technology has made it easier and more discreet for traffickers to recruit, manipulate, and control victims in the last few years (Kranrattanasuit, 2024; Olisah et al., 2024). In short, technology enhances the human trafficking business by enabling traffickers to exploit individuals online. It presents new issues for law enforcement authorities and other associated organizations, necessitating a robust forum for debate and resolution (Malah & Asongu, 2021).

The present study mainly intended to obtain the level of knowledge and attitude and the association between the knowledge and attitude of the general public on the role of technology in human trafficking in Pakistan. There is a significant deficiency of primary and secondary literature on this topic, as evidenced by past research and academic literature. The present study, which is the first of its kind, aims to bridge the existing gap by emphasizing the technological aspect, particularly in regard to new data. In addition, it is also recommended that future studies concentrate on the contributions of studies that primarily look at the technology components of human trafficking and the measures taken to counteract it. The findings of this study also anticipated enabling the international community to achieve the UN (SDGs 2030) goals, especially SDG 8.7 which directly deals with combating human trafficking, SDG 5.2 demanding to combat all forms of violence against women and girls, SDG 16.2 targeting all forms of violence and trafficking operations against children, and SDG 17.6 focusing on the international collaboration in the field of technology. It is essential to focus on this alarming issue of the role of technology in human trafficking and to build up the general public's knowledge and attitude regarding technological use in the activities of human trafficking, to combat online human trafficking and safeguard the general public.

Literature Review

1. Technology and Human Trafficking

Technology is the application of scientific knowledge to enhance the quality of human life, often described as the modification and manipulation of the natural world where individuals live (Buchanan et al., 2018). Within the context of historical slavery, compulsion and abduction served as the main means of victimization. Over time, traffickers have developed several more strategies for attracting and exploiting their victims (Jackson et al., 2019; Manzur, 2021; Schwartz et al., 2018). Technological developments, like the Internet, smartphones, and social media platforms like Facebook, WhatsApp, and Instagram, profoundly alter the global landscape. Concurrently, similar developments emerged from several obscure websites in the information and communication domain. The dark web enables numerous criminal networks to engage in various illicit activities, including terrorism, online fraud, harassment, and other organized crimes (Kethineni, 2019; Lavorgna, 2014). The reliance on technology has rendered us more susceptible to criminal activities (McAlister, 2015).

In 2020, more than 3.5 billion people are active social media users, which is predicted to grow and cross approximately 5.85 billion by 2027 (Chegeni et al., 2022; Knupfer et al., 2023; Tengku Mahamad et al., 2024). These technological platforms such as the Internet, Facebook, WhatsApp, Instagram, and other

computer technologies are borderless where the general population including men, women, and children easily interact, make real-life friendships, and share their personal information without reluctance (Hadjira et al., 2023). The traffickers use strategies such as creating fraudulent internet accounts, posting bogus job advertisements, and establishing fake friendships and connections to lure, recruit, and exploit individuals. Likewise, the traffickers also use these platforms for logistic coordination of routes, communication, transportation, and the execution of individual victimization (John & John, 2018; van Reisen et al., 2017).

2. Knowledge and Attitude towards Human Trafficking

Knowing is one of the distinct human processes that has produced knowledge via human inquiry from ancient times (Bolisani et al., 2018). The knowledge of any society's population is highly influenced by the safety, security, comfort, and gratifications with which the objectives of individuals and organizations are established and obtained (Zwilling et al., 2022). In the domain of human trafficking, millions of people are affected by this widespread and complex issue across the globe. Nevertheless, the public's knowledge and attitudes toward human trafficking are not properly explored or researched. This outcome is unexpected as the general public's understanding plays a critical role in determining how well the social system works to solve issues that are important to society or a particular community (Lasocik, 2021). However, with the increase in media coverage and awareness campaigns by international organizations, governments, and non-governmental organizations (NGOs), the general public is now more aware of human trafficking (Hadjira et al., 2023). Despite these efforts, there is still a great deal of ambiguity in the public domain on what constitutes human trafficking (Hadjira et al., 2023). It is found that people generally misunderstood it to mean just crimes involving forced prostitution or exploitation of sexual relations. Organ trafficking, forced work, and domestic servitude are all considered forms of trafficking (Brennan, 2014). Therefore, more empirical knowledge is required for people to understand the basic concepts of human trafficking as well as the nexus between technology and trafficking (Giommoni & Ikwu, 2024).

Moreover, indicators of human trafficking are frequently overlooked by the general populace, including the prevalent utilization of coerced labor in domestic work, construction, and agriculture (O'Brien, 2016). Opinions on victims of human trafficking can occasionally be contentious. In certain cultures, there is a propensity to attribute responsibility for victims' situations to the victims themselves, especially in instances of sex trafficking, when victim-blaming may be promoted over empathy or assistance (Kara, 2009). This mindset may dissuade victims from pursuing assistance and perpetuate the cycle of exploitation. Public education initiatives have highlighted the necessity for a paradigm shift by underscoring that victims are often coerced, misled, or deluded into their circumstances rather than exercising autonomous choice (Spires, 2021). Despite the growing concern about human trafficking, a considerable disparity persists between knowledge and implementation. The public's perception of trafficking has to change from one of an isolated or uncommon issue to one of one that is acknowledged by all communities.

3. Human Trafficking in Pakistan

This study was mainly focused on the general population in the geographical contexts of Pakistani society. According to Idris (2023), Pakistan, situated on the Asian continent, is ranked as the world's fifth most populated country, with a population of 241.49 million. Most of the people of Pakistan are living in impoverished conditions. Certain areas of the nation lack access to necessities such as food, clean water, and a place to live. Similarly, a substantial number of young people are unemployed and working in a variety of low-wage, potentially hazardous professions. The consequences of these scenarios manifest in the shape of school dropout, child labor, and other criminal activities (United Nations Children's Fund (UNICEF; 2020). As per the report by Federal Investigation Agency (2020), traffickers often preyed on young Pakistanis who were desirous of emigrating abroad because of unemployment and unfavorable economic circumstances. In this regard, the recent report of the Walk Free documented that more than 2.3 million people in Pakistan are living in slavery condition (Walk Free, 2023).

On the other hand, during the past 20 years, Pakistan's proportion of Internet, mobile, and social media users has significantly increased. According to the Pakistan Telecommunication Authority (2020), 87% of the

Pakistani population has access to the Internet on a large scale. The proliferation of cutting-edge social media applications and new mobile technologies (i.e., Facebook, WhatsApp, Messenger, TikTok, Live stream videos, Messenger) is catalyst behind the wide spectrum of Internet users. Social media and mobile phones are being used for more crimes in Pakistan as a result of these technological advances. Furthermore, Facebook, WhatsApp, and YouTube have been found to be the most beneficial applications among Pakistan's estimated 70 million active social media users. The report of Modern Slavery in Pakistan, (2019) asserted that traffickers extensively targeted the Pakistani population using the internet, mobile phones, fraudulent job advertising, and fake relationships. The use of these technologies has also been noted in trafficking activities in Pakistan (Abbasi et al., 2020; Munir & Shabir, 2018; Sykiotou, 2017).

Methodology

1. Study Design
For this study, the researchers adopted the quantitative cross-sectional study design to obtain the level of knowledge and attitude and the association between knowledge and attitude of the general public of Pakistan regarding the role of technology in human trafficking. A self-administered survey questionnaire was used for the collection of data. Prior to commencing the main study, the questionnaire was validated using different processes which included content validity and face validity, and a pilot study with 30 participants. The final questionnaire for the main study was divided into three sections, the first section focused on the socio-demographic profile of the participants. The second section consisted of 18 statements with binary responses (i.e., Yes or No) intended to gauge the participants' level of knowledge. The third section, which had 15 statements with three possible answers (i.e., Always, Sometimes, and No), concentrated on the participants' attitude levels. The questionnaires were physically distributed, and each participant was requested to fill out the questionnaire on their own.

2. Study Area and Location
One of the basic steps in conducting research is the selection of a location or area (Bryman, 2016). The present study addresses a new and emerging issue within the context of Pakistani society. For this purpose, the researcher collected data from two provinces in the country, namely, Punjab and Khyber Pakhtunkhwa, Pakistan. The selected locations were documented as the most populous and the primary hub for human trafficking activities in Pakistan (U.S. Department of State, 2022).

3. Participants and Sample Size
The participants of this study were selected from two provinces based on the inclusion and exclusion criteria in Table 1. During the cross-sectional study design, participants are chosen according to certain study criteria, and the researcher assesses their results simultaneously (Setia, 2016). The table shows the inclusion criteria: a) Pakistani citizen, b) willing to participate, c) Age 18 and above, d) psychologically fit, e) able to read, write, and understand Urdu language, and the exclusion criteria: a) non-Pakistani citizen, b) not willing to participate in the study, c) age under 18 and below, d) psychologically unfit, e) unable to read, write and understand the Urdu language.

Table 1. Inclusion and exclusion criteria of the study participants

Inclusion Criteria	Exclusion Criteria
Pakistani citizen	Non-Pakistani citizen
Willing to participate in research	Reluctant to participate in the present study
Age 18 and above (Male, Female)	Age under 18 and below
Psychologically fit	Psychologically unfit
Able to read, write, and understand the Urdu language	Unable to read, write, and understand the Urdu language

A total number of 443 general public participated in this study. The sample size was determined using the Raosoft online sampling calculator. To compute the statistical distribution of the respondents, the following formula was used.

$$x = Z^{(c/100)^2} r(100-r)$$
$$n = {}^{Nx}/((N-1)E^2 + x)$$
$$E = Sqrt[{}^{(N-n)x}/n(N-1)]$$

In this formula, N represents the total size of the population, E describes the margin of error, r shows the fraction of responses, where n is the proposed sample size, and (c/100) defines the critical value for confidence level c. Following this, Table 2 shows the details of the calculation of sample size according to the Raosoft online calculator. Due to the larger sample size and area locations, the researcher acquired the multi-stage sampling technique for the data collection. Rahman et al. (2022), indicated that to increase the efficacy and efficiency of the primary data collection process, multi-stage sampling is a technique used to divide the vast population into smaller clusters.

Table 2. Sample size calculation for the quantitative group of this study

Criteria	Sample Size Calculation
Population size	77,460,502
Margin of error in (%)	5
Confidence level in (%)	95
Response distribution	50
Required sample size	385
After 15% of dropout rate	443

4. Data Analysis
The gathered data was analyzed using the IBM SPSS 29.0 version. In order to assess the participants' sociodemographic profile and ascertain their level of knowledge and attitude, the data was first descriptively analyzed. Following the descriptive analysis, the data were subjected to an inferential statistical analysis. The Pearson correlation coefficient test was employed to determine if participant knowledge and attitudes on the role of technology in human trafficking were related.

5. Ethical Consideration
This study was approved by the National University of Malaysia's Research Ethics Committee (Reference No. UKM PPI/111/8/JEP-2023-680). In adherence to research ethics, the participation in this study was completely voluntary, anonymous and confidential, where every participant was informed to withdraw from the study without requiring them to provide a reason. All personal information and gathered data will remain confidential and only available to the researcher.

Findings
The results of this study were divided into two parts. The first part described the descriptive statistical result of the socio-demographic profile and the level of knowledge and attitude of the participants. The inferential statistical result pertaining to the knowledge and attitude of the general public on the role of technology in human trafficking in Pakistan is presented in the second section.

1. Descriptive Analysis Result
The socioeconomic characteristics of the 443 participants are presented in Table 3. The data in Table 3 indicated that the majority of the participants 367 (82.8%) were male and 76 (17.2%) were female. The majority of participants were between the ages of 18 and 27, accounting for 260 (58.6%) of the total sample size. Similarly, the vast majority of participants (143, 32.4%) held a master's degree as their highest level of

study, while 118 (26.6%) had graduated. In addition, the majority of 123 (27.8%) of the participants were students by occupation, and 84 (19%) were laborers. Most of the participants preferred not to mention their family monthly income. Furtherly, a large proportion of 436 (98.4%) of the participants were social media users. Among the participants, 131 (29.5%) were primarily users of YouTube, Facebook, and WhatsApp.

Table 3.   Demographic profile of the participants

Variables	n (%)
Gender	
Male	367 (82.8)
Female	76 (17.2)
Age	
18-22	88 (19.8)
23-27	172 (38.8)
28-32	96 (21.6)
33-37	52 (11.8)
38-42	23 (5.2)
43-47	8 (1.9)
48 and above	4 (0.9%)
Education level	
No formal education	30 (6.8)
Primary (5 classes)	27 (6.1)
Middle (8 classes	25 (5.6)
Matric (10 classes)	33 (7.4)
Intermediate (12 classes)	50 (11.3)
Graduation (14 classes)	118 (26.6)
Master (16 classes)	143 (32.4)
PhD	17 (3.8)
Current occupation	
Labor	84 (19)
Shopkeeper	63 (14.2)
Student	123 (27.8)
Teacher	38 (8.6)
Unemployed	64 (14.4)
Government Job	38 (8.6)
Private Job	29 (6.5)
Farmer	4 (.9)
Family monthly income	
20000 to 40000 PKR	72 (16.3)
40001 to 60000 PKR	67 (15.2)
60001 to 80000 PKR	45 (10.1)
80001 to 100000 PKR	50 (11.3)
Above 100000 PKR	97 (21.9)
Prefer not to mention	112 (25.3)
Use of social media applications	
Yes	436 (98.4)
No	6 (1.4)
Don't know	1 (.2)
List of three social media apps which used on a priority basis	
WhatsApp, Facebook, TikTok	98 (22.1)
WhatsApp, Instagram, YouTube	131 (29.5)
WhatsApp, Messenger, LinkedIn	10 (2.3)
WhatsApp, indeed, Bayt.com	6 (1.4)
WhatsApp, Twitter, Facebook	31 (7.0)
WhatsApp, YouTube, TikTok	13 (2.9)
WhatsApp, Telegram, LinkedIn,	21 (4.7)

IMO, WhatsApp, Facebook,	76 (17.2)
WhatsApp, Bayt.com, Messenger	3 (.7)
WhatsApp, Messenger, TikTok	10 (2.3)
WhatsApp, Snapchat, Pinterest	30 (6.8)
Piver, Instagram, WhatsApp	10 (2.3)
WhatsApp, Designs, Fiverr	3 (.7)
WhatsApp, Fiverr, Upwork	1 (.2)

2. Level of Knowledge

After the documentation of the participant's socio-demographic profile, Table 4 represents the findings of the level of knowledge of the general public on the role of technology in human trafficking. The table described that a large proportion 233 (50.3%) of the participants had a low level of knowledge regarding the role of technology in human trafficking in Pakistan, 144 (32.5%) had a moderate level of knowledge, and only 76 (17.2%) had a high level of knowledge. In conclusion, the overall findings of the general public level of knowledge revealed that the majority of the participants had a low level of knowledge and they did not know much about the role of technology in human trafficking in Pakistan. Moreover, Figure 1 and 2 further illustrates the frequency of how the level of this study participants' knowledge varies in three categories Low, Medium, and High levels.

Table 4. Level of knowledge among the general public towards the role of technology in human trafficking

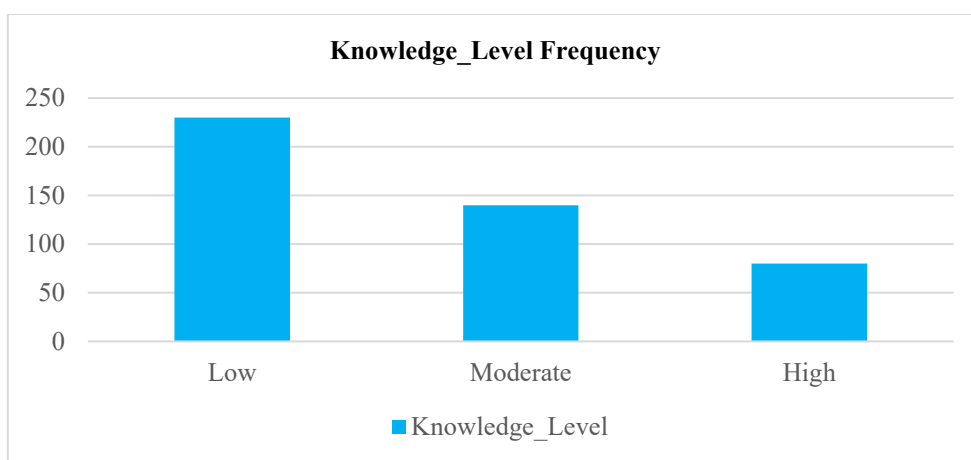| Knowledge Level	Low n (%)	Moderate n (%)	High n (%)
Number of Participants	223 (50.3)	144 (32.5)	76 (17.2)

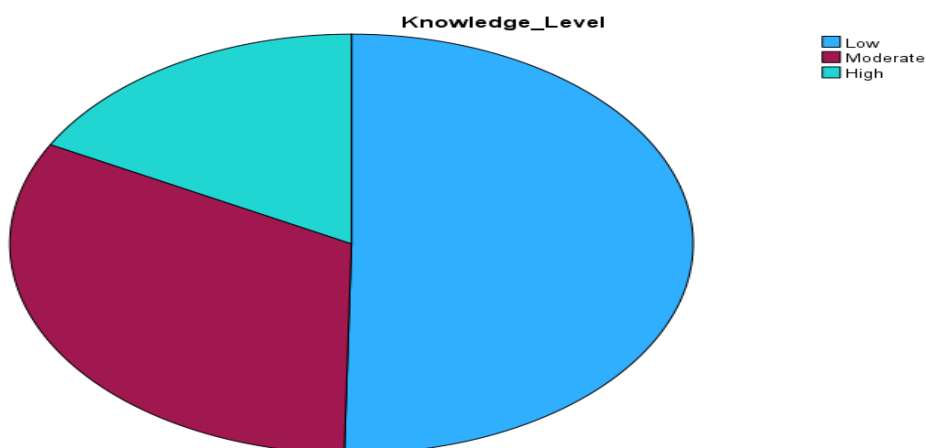Figure 1. Frequency of variation of the level of knowledge in three categories

Figure 2. Frequency of variation of the level of knowledge in three categories

3. Level of Attitude

Table 5 shows the findings of the level of attitude of the participants on the role of technology in human trafficking in Pakistan. The result demonstrates that a large number 173 (39.1%) had a high level of attitude, followed by 138 (31.2%) of the participants who had a moderate level of attitude, and the remaining 132 (29.8%) had a low level of attitude. The overall result of the level of attitude articulated that the participants of this study had a high level of attitude regarding the role of technology in human trafficking in Pakistan. The conclusion of both findings of knowledge and attitude affirmed that the participants had a low level of knowledge. However, their attitude was high regarding the role of technology in human trafficking in Pakistan. In addition. Figure 3 and 4 also elaborates on the frequency level of attitude in three levels Low, Moderate, and High.

Table 5. Level of attitude among the general public towards the role of technology in human trafficking

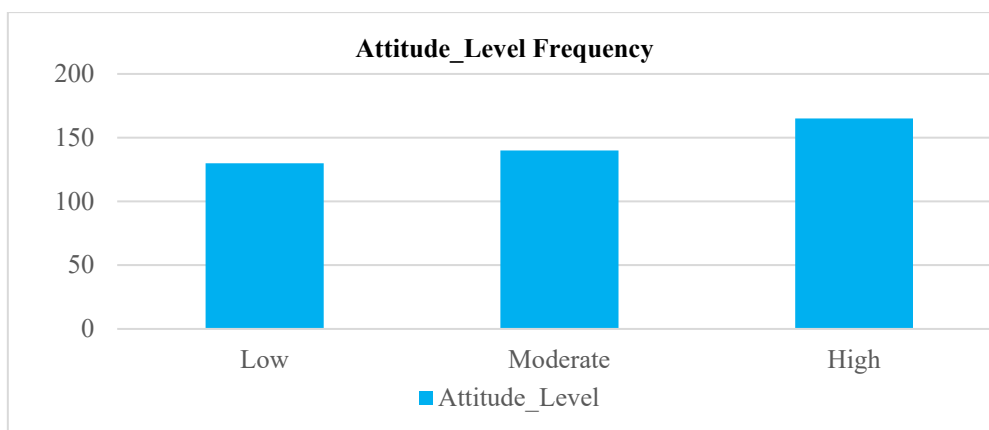| Attitude Level	Low n (%)	Moderate n (%)	High n (%)
Number of Participants	132 (29.8)	138 (31.2)	173 (39.1)

Figure 3. Frequency of variation of the level of attitude in three categories

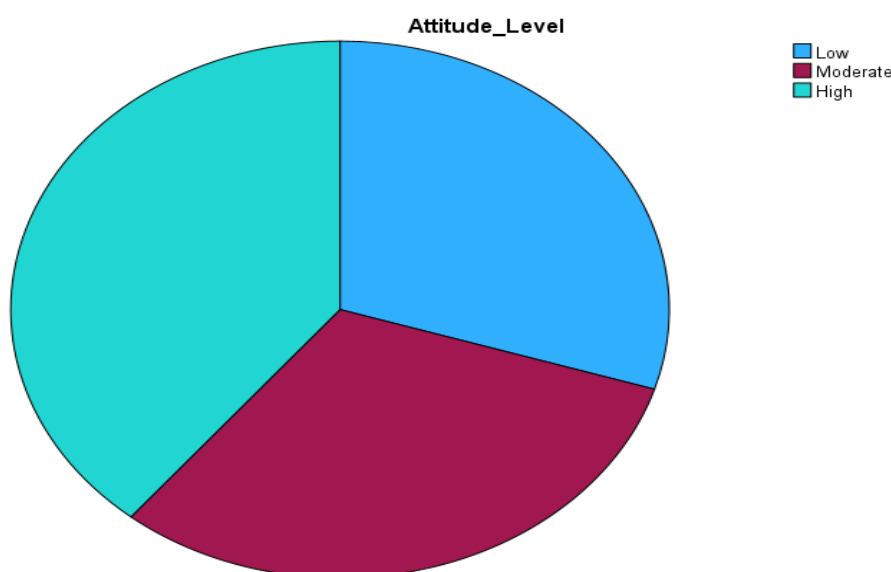
Figure 4. Frequency of variation of the level of attitude in three categories

4. Inferential Statistical Result

Inferential statistics is used to determine the result of the association between the knowledge and attitude of the general public participants on the role of technology in human trafficking in Pakistan. The Pearson correlation coefficient statistical test was applied. Table 6 shows the Pearson correlation coefficient values of knowledge and attitude. The result shows that the correlation coefficient (r) value between the knowledge and attitude is (.688), which indicates a strong correlation between the participants' knowledge and attitude toward the role of technology in human trafficking in Pakistan. In parallel, the result of the P value is (<.001), which reveals that the relationship is statistically significant. Overall, the statistical analysis of the association between knowledge and attitude revealed that the level of knowledge increased in tandem with the level of attitude. Therefore, both variables of knowledge and attitude are supported.

Table 6. The significant association between knowledge and attitude

	Knowledge	Attitude
Knowledge	1	.688**
P value		<.001

**. *Correlation is significant at the 0.01 level (2-tailed).*

Discussion

The focus of this research study was to obtain the level of knowledge and attitude, as well as to identify the association between the knowledge and attitude of the general public participants on the role of technology in human trafficking in Pakistan. Knowledge has been traditionally defined as "beliefs that are true and justified" (Hunt, 2003 p.103). On the other hand, the concept of an attitude refers to the "disposition towards or against a specific phenomenon, person or thing" (Dawson, 1992 p.437). The relationship between public knowledge and attitude is intimately interrelated and has been intensively examined in methodological and scholarly discussions (Sharapov, 2014). Consequently, acclimation of public knowledge and changing public attitude are crucial to halting the growing demand for low-wage labor of men, women, and children who are being trafficked and used for different types of exploitation. For this purpose, it is highly important to scale the level of knowledge and attitude of the general population to improve combating strategies against human trafficking operations (Houston-Kolnik et al., 2016).

In the present study, the findings of the participants' level of knowledge and attitude were acquired using a self-administered survey questionnaire which consisted of 18 statements of knowledge and 15 statements of attitude. Furthermore, all the statements of knowledge and attitude were analyzed using SPSS descriptive statistics and inferential statistics methods. The overall statistical result of both levels of knowledge and attitude found that a large proportion 233 (50.3%) of the general public had a low level of knowledge of the role of technology in human trafficking in Pakistan. On the other hand, the majority of 173 (39.1%) of the participants had a high level of attitude toward the role of technology in human trafficking in Pakistan. This result concluded that the participants had a low level of knowledge, but their attitude level was high towards the role of technology in human trafficking.

As for the result of the level of knowledge and attitude of the present study, the previous studies have also replicated and supported this result. Baumann (2022) documented that the number of active social media users is increasing on a regular basis, hitting the figure of 3.5 billion, and is expected to reach 4.41 billion users by 2025 around the globe. Despite the growing number of social media users, the general public still has limited knowledge of the role of technology in human trafficking and they are trapped by traffickers (Alsemairi, 2022). According to Khan et al. (2022a), the majority of Pakistani citizens still know very little or nothing about the crimes of human trafficking. It is very crucial to educate people by using different social media platforms in order to combat human trafficking. Subsequent to this, a study conducted in the US found that the majority of the US populace is unaware and has no knowledge about the existence of human trafficking (Farmer, 2010). Another study in Moldova also articulated that due to the lack of access to pertinent information, resources, and networks, local residents still possess a limited understanding of human trafficking. There is also a significant vacuum in the body of prior research on the subject of technology's

participation in human trafficking, especially when it comes to the examination of public knowledge and attitude (Farmer, 2010). In order to accomplish this goal, community people at the village, town, and city levels must be engaged by security authorities and other local and international organizations, such as the UN, UNODC, and IOM, to increase awareness and educate people on this issue. Furthermore, stakeholders must make use of online social media platforms, such as YouTube, Facebook, Instagram, and related applications to raise awareness about how traffickers utilize technology to deceive individuals for a variety of exploitative purposes.

The presence of rape, child sexual abuse, and other prostitution-related acts has been studied in earlier work. However, research on attitudes against human trafficking is still being considered and remains to be investigated (Cunningham & Cromer, 2016). Therefore, the objectives of the present study add a unique area of research to the existing literature. Cunningham and Cromer (2016), emphasized the need to comprehend the general population's attitude towards the operations of human trafficking. Routhier (2007) further elaborated that the shift of human trafficking from traditional methods to online platforms has had a significant influence on the local community attitude. Likely, the persistence of security risks often compels individuals to adopt a more positive attitude and take strong actions, which leads to the creation of a favourable environment for society (De Kimpe et al., 2022). In this regard, a study conducted in Nepal documented that the tendency of local people's attitudes is higher towards human trafficking. In many responses, the participants show their attitude against the trafficking activities (Shrestha et al., 2015).

Next, the result of the association between general public participants' knowledge and attitude toward the role of technology in human trafficking was achieved using the SPSS Pearson correlation coefficient test. The analysis of the correlation coefficient (r) value (.688) affirmed that there is a strong correlation between the two variables of knowledge and attitude. The result of the P value (<.001) further shows the relationship between both variables is statistically significant. In this regard, Parsons et al. (2014), indicated that the availability of different sources of knowledge plays a significant role in making or changing an individual's attitude. Moreover, it was shown that the relationship between individual knowledge and attitude was a more effective strategy in combating the operations of human trafficking (Houston-Kolnik et al., 2016). The findings of this study found that increasing the level of knowledge can also increase the level of attitude. Following this, King'ori (2014), articulated that the threats of cybercrime activities will increase as long as the people's knowledge and understanding are low. Hence, educating individuals and fostering a positive shift in their attitude is crucial to strengthening the connection between knowledge and attitude to fight against online criminal activities. However, there is an increasing necessity to concentrate more on the ongoing technological criminal operations. For this purpose, it is essential to conduct more research on this area to support and encourage the general public knowledge and attitude towards the eradication of cybercrimes (Sarfi et al., 2023).

Conclusion

Human trafficking is an increasing criminal activity that significantly impacts individuals in both developed and least developed nations, including Pakistan. Advancements in technology, especially in information communication technologies such as the Internet, Facebook, WhatsApp, and other social media platforms, have transformed traditional human trafficking operations into online networks. Traffickers continuously enhance their communication tools to target, recruit, and exploit individuals of all age groups. However, due to their low knowledge and awareness, the general public remains vulnerable to being easily targeted and used in human trafficking operations. In this regard, the current research obtained the level of knowledge and attitude and the association of knowledge and attitude of the Pakistani general public towards the role of technology in human trafficking, providing critical evidence for future studies on the relationship between technology and human trafficking. The findings of this study affirmed that the general public had a low level of knowledge regarding the role of technology in human trafficking, but a high level of attitude.

The findings further demonstrated a strong correlation between knowledge and attitude, indicating that an increase in public knowledge leads to a corresponding rise in the level of public attitude. In addition, this research was the first of its kind to provide an avenue for the general people to express their knowledge and

attitudes about the role of technology in human trafficking. The researchers want to draw attention to the constraint of insufficient academic publications and research related to the role of technology in HT. This research found that the majority of articles and studies focused on the general phenomenon of HT, such as the historical contexts of HT, the statistical numbers related to trafficking cases, and the contribution of different laws in HT. There is a lack of primary data related to the role of technology in HT. For this purpose, future study efforts will need to focus on the technological aspect, especially in relation to new data, and to fill the existing gap in the academic literature. This study's findings are expected to assist security agencies, policymakers, and local communities, and enhance the ability of the countries to achieve UN Sustainable Development Goals (SDGs 2030) especially goals 5.2, 8.7, 16.2, and 17.6. With the aim to focus on this emerging issue of human trafficking and to build up the general public knowledge and attitude regarding the technological use in the activities of human trafficking, in order to combat online human trafficking and safeguard the general public. In a similar vein, this research significantly enhances our comprehension of human trafficking in connection with technology, as well as in the domains of cybercrime, criminology, and victimology, within the context of Pakistan and globally.

Informed Consent Statement: The researchers have obtained written informed consent from the participants regarding the purpose of study, data collection procedure and publication of the findings.

Conflicts of Interest: No competing interest were disclosed by the author(s) with respect to the research, authorship, and/or publication of this article.

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