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Use of WhatsApp as an academic social network and work performance in basic education teachers

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Abstract

WhatsApp has become a very useful academic social network where professors can carry out academic work activities such as sharing documents and information, accessing training, coordinating work meetings, monitoring the fulfillment of functions, strengthening personal ties, among others. In this framework, the objective of this study was to determine whether there is a relationship between the use of WhatsApp as an academic social network and the work performance of basic education teachers in the Puno - Peru region in 2025. The study is descriptive and has a correlational cross-sectional design. The population consisted of 3000 teachers of both sexes, with a sample of 341. Data collection was through the questionnaires Use of WhatsApp as an academic social network and Work performance, both with an Aiken V of 0.79, and an internal consistency index α Cronbach's = 0.90 and 0.86 and McDonald's ω = 0.93 and 0.87, respectively. The data were analyzed in the SPSS v.26 statistical program, obtaining a correlation Rho = 0.978 and P-value = 0.000. It is concluded that there is a very high and significant positive correlation between the use of WhatsApp as an academic social network and teacher work performance.

Keywords: Academic network, Communication, Social network, Use of WhatsApp, Work performance.

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1. Introduction

In the century of the Web 2.0 (G.2) generation, it is indisputable that the use of WhatsApp has become a daily activity [1-3]. Its importance is evident in the millions of users who make use of this social network. In 2019 it was already the most used mobile messaging application globally. by March 2020, it had two million users [4] by July 2024, more than 2700 million users, becoming the most important communication platform in the world, being able to carry out, in and with it, recreational, social, productive and commercial activities, energizing new forms of online interaction and instant exchange of information [3].

Facing the advancement of G.2 web technologies, new ways of learning from students demand new ways of teaching. For this reason, the United Nations (UN) has indicated that the teacher must be an innovative element of the educational system in accordance with advances in science and technology, with a different practice supported by the search for problem-solving with the support of technologies [5]. It also requires the development of digital skills, essential for improving their teaching performance, such as the intelligent and strategic management of social networks that are able to undertake, innovate, and adapt their pedagogical practice to the ICT framework [6]. Access to face-to-face training is no longer enough; it is crucial to link up with virtual communities of information, learning and updating, especially via one of the most popular social networks in these times, WhatsApp.

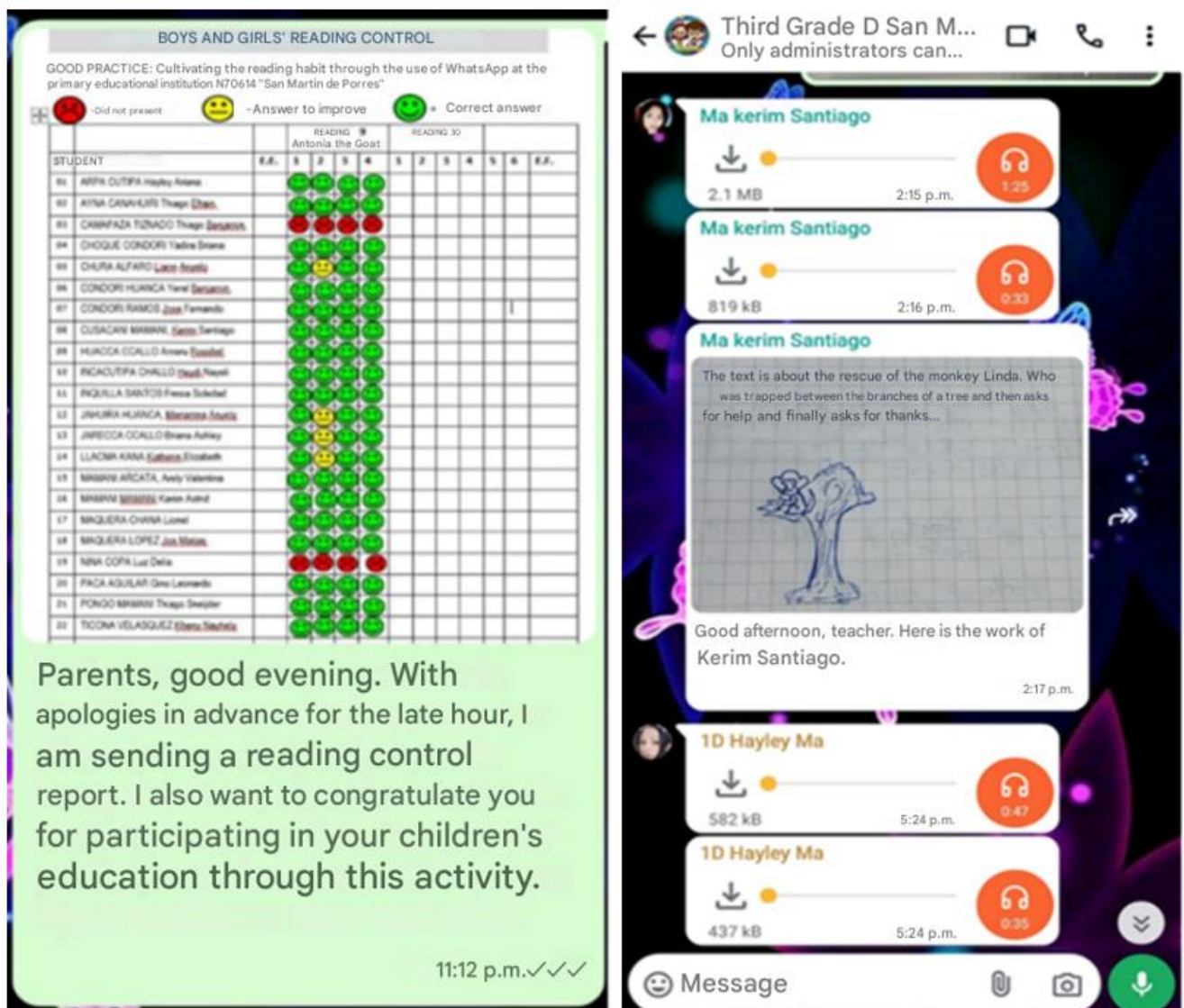


Figure 1.
Use of WhatsApp to coordinate with students and parents.

In this line, the teachers of the urban educational institutions at the elementary level belonging to the Local Educational Management Unit of Puno - Peru, after their immersion in virtual education due to the COVID-19 pandemic, and driven by the desire to give continuity to their administrative, pedagogical, and didactic functions, make use of the multiple functions and applications of WhatsApp, turning this social network into a clearly academic one. It is common to see teachers creating various WhatsApp groups and coordinating daily activities with their colleagues, parents, students, and authorities; providing indications to their students; accessing professional development training; exchanging flattery that strengthens bonds of friendship and companionship, which is undoubtedly associated with work performance. These socialization, entertainment,

and informal communication groups have become motivational circles [7]. They have access to information, links, communications, or guidance that encourages them to continue preparing. They are spaces for interaction and work exercises, where they can work collaboratively, share resources, and information remotely [8]. In short, it is an m-learning tool for education and distance work, as happened with radio in the second half of the twentieth century, in the attempt to teach literacy in Spanish to rural populations, known as Radio Schools [9].

It is true that WhatsApp has disadvantages if it is used as a tool for distraction and entertainment. Its use, without criteria and for a long time, can cause anxiety, low self-esteem, attention deficit, poor performance, and poor hygiene [3, 10, 11]. The lack of guidance, guidelines, exposure to unregulated messages, and the sending of information unrelated to the subject of study generate distraction [2, 12, 13]. Their addiction can be a factor in school procrastination [14]. In university teachers, inappropriate use is related to burnout syndrome [15]. However, as it is a double-edged technology, it poses challenges, it also offers multiple opportunities in various areas of human life.

Various studies have shown the benefits of WhatsApp as a synergistic tool for learning and self-management of student learning that facilitates organizing in work groups, generating communication systems and interpersonal relationships [2, 16-18]. It is a mediator of mobile learning or m-learning. In spaces of greater autonomy, such as the university, it is useful for interacting, sharing academic content, facilitating communication, collaborating, acquiring knowledge, and cohering groups [17, 19] cooperate online, work as a team, communicate outside of academic hours [20] discuss topics related to courses and share educational materials. In the field of medical education, it is a tool for communication and digital organization among resident physicians, which allows the acquisition of knowledge through group work, establishes the teacher-student relationship, exchanges academic experiences, cooperates among colleagues, and promotes creativity, research, and self-learning [21-23] providing dynamism to distance teaching and learning.

The use of WhatsApp in education has been related to new forms of citizenship in elementary schools and horizontalization of discourses [7]. Teachers have been using it since 2020, in the midst of the Declaration of the COVID-19 Pandemic, having been the most popular social network to communicate with students. It is known that 54% of teachers took online assessments [24]. They held sessions via WhatsApp and assisted students to be aware of their cognitive and affective development [18]. Except for these, and the studies by Monguillot et al. [25] on the use of WhatsApp as a synchronous and asynchronous tool for virtual collaborative work between teachers to promote the joint creation and construction of curricular knowledge in Barcelona and that of Fuentes Cardona [26] as a means for teachers in Mexico to give indications and materials, there are no studies on its relationship with teaching performance; therefore, it is necessary to know if there is a correlation between the use of WhatsApp as an academic social network and work performance.

2. Theoretical Framework

2.1. WhatsApp as an Academic Social Network and Teacher Work Performance

WhatsApp, from the English 'What's Up', is a web application for mobile devices or smartphones created in January 2009 by WhatsApp Inc. by American engineers Ian Koom and Brian Acton, later acquired by the multinational Facebook for 19,000 million dollars in February 2014, forming the Facebook-WhatsApp-Instagram conglomerate. It is available for Android, iPhone, Mac, Windows, Windows Phone, and Nokia devices, to provide messaging service (since 2011), geolocation (2012), voice recordings (2013), double check (2014), WhatsApp Web (2015), messaging by GIFs and video chats (2016), business for business (2018), virtual reality (2023), Meta artificial intelligence (2023), among others. It is a socio-technical environment that builds particular forms of sociability based on the datafication of all exchanges and their co-optation by algorithms designed according to the interests of the technology corporation [27].

Its diversity of digital resources, portability, immediacy, connectivity, and adaptability allow for speed and instantaneity in communication, interaction, collaboration, and the exchange of professional and personal academic experiences in real time [13, 22]. It has penetrated the imaginary and physical walls of the school, and has blurred the boundaries of the working day, legitimizing new forms and contents of participation [26]. It is a digital tool for the organization of educational work, promoting interprofessional relations, educational communication, and support for the teaching-learning process. These benefits transformed it from a platform for recreation and popular social distraction into an ally of formal education that enhances teacher performance, which, according to the Ministry of Education [28] requires permanent preparation to achieve learning in students; teaching with full mastery of disciplinary knowledge and strategies; democratic, critical, and collaborative participation in school management linked to the community; and professional development with identity and ethics capable of reflecting on their practice, overcoming the cognitive approach to migrate to the critical approach that relates theory, practice, and virtual reality.

WhatsApp, as a tool for work organization at an academic and institutional level, allows teachers to organize themselves into work groups and exchange information and knowledge directly [2, 8, 29]. Through chats, the directors of an institution, with the ease of the case, can convene and hold academic meetings; plan, organize, and conduct teaching work jointly and remotely; monitor planned activities; supervise and control the actions implemented in the institution. It assumes the function of an academic and administrative digital assistant, being able to provide attention to teachers, parents, and students through it. It is a kind of collective memory and agenda [7] from which shared information can be retrieved, reviewed, read, forwarded, stored at any time and in any space, and used in the exercise of the profession. All this favors the updating of knowledge and skills, and the achievement of professional activities and objectives, whether academic, pedagogical, or institutional.

As a work communication tool, it is beneficial and very useful among teachers because they can carry out internal communications and coordination. They can perform work, comment on issues of interest, ask questions, and receive

instructions from the authorities. It promotes the instantaneous and democratic exchange of information (text or video) and mutual collaboration. It fosters interaction, access to information, and collaborative learning [8, 30] because it allows for the sharing, dissemination, and diffusion of documents with pedagogical content or messages of reflection and support. Through it, educational issues and topics of interest are debated and discussed [26]. WhatsApp transformed the practice of global communication [4]. The teacher can contact co-workers, students and parents directly to inform them of their children's academic situation.

As a tool for labor relations, it constitutes a space for interaction and socialization, consolidating itself as one of the first forms of interpersonal communication that favors the sociability of teachers. This is because, in the virtual era, participation has no defined place or space. On the contrary, it provides an open, dynamic, and unexpected environment to strengthen interpersonal relationships horizontally [26]. There is freedom that generates trust and responsibility that are reflected in a favorable work environment [2, 8, 31]. Through written messages, audios, videos, images, emoticons, or links, teachers can express their emotions and feelings, either formally or through jokes and pranks, producing spaces of affinity. Exchanges in the chat are significant for a more participatory institutional life in the school [7]. What began with a 'let's play' ends in a hug or handshake, thus improving teachers' interpersonal relationships.

WhatsApp is also an ally of teaching and learning because it allows remote contact and improves communication between teachers and students. It has become a kind of 'virtual classroom' where the teacher acts as an external facilitator for the student to self-manage their learning [2]. It is a tool that, depending on creativity, can be used for distribution, assignment delivery, student leveling, exchange of ideas, and clarification of doubts and concerns [2] and promotion of autonomous and collaborative learning due to its easy access to educational resources [30, 32]. It has become a formal communication tool for sending instructions, reminders, and work assignments; promotion of group tasks and; planning and development of academic activities [16]. It allows extending activities such as feedback, sharing reading sheets in various formats, designing activities, clarifying doubts, and assigning tasks. It can be used both inside and outside the hours provided for teaching. Through it, information of interest for learning, recorded classes, or specific indications in audio or text are shared [13].

3. Methodology

3.1. Research Type and Design

The study was carried out within the framework of the quantitative approach because the information collected is quantifiable. The type of research is descriptive since the study was limited to describing the variables; meanwhile, the design corresponds to the cross-sectional correlational [33].

3.2. Population and Sample

The population is the set of subjects or things with common qualities located in a certain space and susceptible to measurement. In this understanding, the population was made up of 3,000 teachers, of both sexes, from the elementary educational institutions of the urban environment of the Local Educational Management Unit of Puno del Perú. The sample consisted of 341 teachers, at a confidence level of 95%. The sampling was conducted using the non-probabilistic method of convenience [33] taking the use of WhatsApp in work activities and predisposition as inclusion criteria. Participation was voluntary and anonymous.

3.3. Technique and Instrument

The information was collected using the survey technique, supported by the questionnaire as an instrument. The Questionnaire on the Use of WhatsApp as an academic social network consists of 24 items and was validated by the expert judgment method, yielding a value greater than 75 points and V Aiken = 0.79. The pilot application, in a similar sample of 141 teachers, yielded a reliability index α Cronbach's = 0.90 and McDonald's ω = 0.93, which indicates good reliability. For its part, the Teacher Work Performance Questionnaire, consisting of 20 items, was developed by Flores and Huaman [34] in the Framework of Good Teacher Performance of the Ministry of Education of Peru, was also validated by three experts with a rating of more than 0.75 points, which means 'good'. Likewise, he obtained a Cronbach's α index = 0.86 and McDonald's ω = 0.87 that indicate good internal consistency.

3.4. Data Collection Procedure and Hypothesis Testing

Once the data were collected, it was subjected to descriptive and inferential analysis using the SPSS v.26 statistical package. After the normality test of the data using the Kolmogorov-Smirnov test, because there was a sample of more than 50 subjects, a P-value = 0.00 < 0.05 was obtained; therefore, the null hypothesis was rejected and the alternate hypothesis was accepted (H_a : The data do not present a normal distribution). Consequently, the non-parametric test called Spearman's correlation was applied.

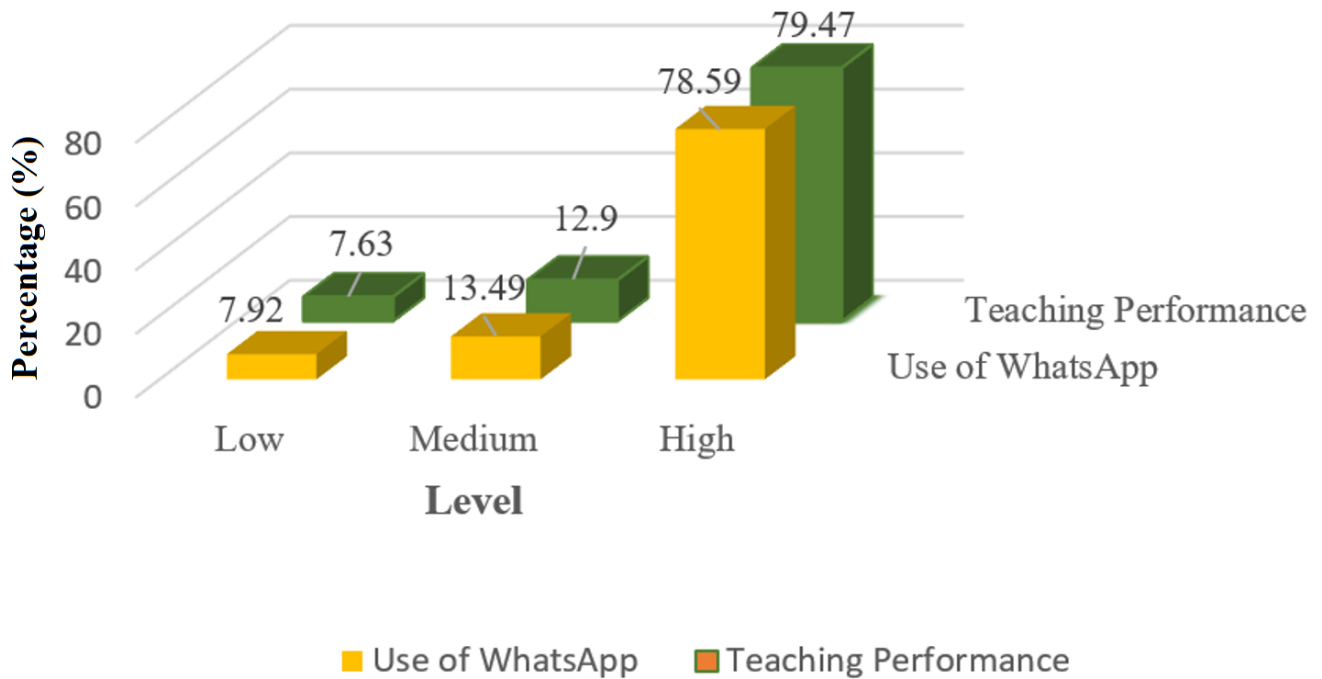


Figure 2.

Level of use of WhatsApp as an academic social network and teaching work performance, Puno, Peru.

4. Results and Discussion

According to the data shown in Figure 2, regarding the level of use of WhatsApp as an academic social network, 7.92% of the professors are at a low level of use, 13.49% at a medium level, and 78.59% at a high level. Consequently, professors do use WhatsApp as an academic management tool in their professional work. Regarding the level of teacher work performance, 7.63% of those surveyed are at a low level, 12.90% at a medium level, and 79.47% at a high level. These data indicate that teachers have a high level of job performance.

Table 1.

Correlation between the use of WhatsApp as an academic social network and teaching work performance.

Variables	V2: Teaching Work Performance		
	Spearman's coefficient	Rho correlation	Sig. (bilateral)
V1: Use of WhatsApp as an academic social network	0.978 (+ very high)		P-value = 0.000

The data presented in Figure 2 was subjected to a correlation test, which index presented in Table 1 indicates that there is a very high and significant positive correlation between the use of WhatsApp as an academic social network and the work performance of teachers in the urban educational institutions at UGEL Puno, having obtained a Rho index of 0.978 and a P-value of 0.000, which is less than 0.05; that is, if WhatsApp is used as an academic network, teaching performance is favored.

Table 2.

Correlations between the dimensions of the variable Use of WhatsApp as an academic social network and the variable Teacher work performance.

Variable 1: Use of WhatsApp as an academic social network Dimensions	Variable 2: Teacher work performance		
	Spearman's coefficient	Rho correlation	Sig. (bilateral)
D1: Use for work organization	0.878 (+ high)		0.000
D2: Use for work communication	0.653 (+ moderate)		0.000
D3: Use for interpersonal relationships	0.853 (+ high)		0.000
D4: Use for teaching and learning	0.703 (+ high)		0.000

The use of WhatsApp as an academic social network was analyzed in its four dimensions, and according to the results, presented in Table 2, it is found that: Regarding the first dimension D1, there is a high and significant positive correlation between the use of WhatsApp for the organization of activities and the performance of teachers. with a Rho index = 0.878 and a P-value = $0.00 < 0.05$. Regarding the D2 dimension, there is a moderate and significant positive relationship between the use of WhatsApp for work communication and teacher work performance, with a Rho = 0.653 and a P-value = $0.00 < 0.05$. In relation to the use of WhatsApp for interpersonal relationships and teacher work performance, there is a high and significant positive correlation, as a result of the fact that a Rho = 0.853 and a P-value = $0.00 < 0.05$ were found. Finally,

with respect to the use of WhatsApp for teaching, learning and teacher work performance, there is a high and significant positive correlation, with a Rho index = 0.703 and P-value = 0.00.

It is undeniable that WhatsApp is already part of the lives of people and institutions or organizations, impregnated as a kind of prosthesis, which, when used without criteria or mediation, generates addictive attitudes, stress, anxiety, distractions and academic procrastination [2, 13, 14, 35]. However, according to the present study, carried out among basic education teachers in urban areas, when this social network is used judiciously and its benefits are aimed at educational purposes, it behaves as a benefactor of teacher work performance, a strategic ally of education, because a very high and significant positive correlation was found between the use of WhatsApp as an academic social network and teacher work performance in institutions urban basic education in Puno – Peru, (Rho = 0.978 and a P-value = $0.000 < 0.05$). This result reinforces the similar correlations found in different populations, in teachers in rural areas in Lima [36] and alternative basic education (adults) in Huncayo, Peru [34]. It has penetrated the walls and the physical schedules historically imposed by the traditional school; there is no longer a single place or space to learn or to teach. It doesn't matter if you are in rural or urban, private or state areas, or in initial, primary, secondary, or higher education, you can teach remotely.

Various studies have shown that the use of WhatsApp is a useful learning tool for students in basic education [23] university [2] medicine [22] and future teachers [37] proving to be an interactive social network that provides dynamism to the act of learning, by allowing people to organize in online work groups, exchange experiences and make schedules more flexible in tutor-student communication. However, it is clear that, as Ahad and Lim [12] state, the domestication of WhatsApp does not only fall on students but also on teachers. Although various studies demonstrate the benefits of WhatsApp for student learning, the results of this study also show the benefits for teachers and the teaching process. Teachers can review academic content, access training spaces, learn about them, and eventually attend them; they can organize training events, share their professional work and classroom experiences, divulge their developed innovation projects, form groups to exchange information and training, carry out collaboration and exchange of learning, clarify doubts, and, in short, enrich their professional assets. In this way, they strengthen their professional capacities to teach, participate in the management of the school, cultivate identity, and, of course, support student learning.

The use of WhatsApp for the organization and planning work activities, according to the results of the study (Rho = 0.878 and P-value = 0.00) it has a high and significant positive relationship with teachers' work performance. This result is consistent with studies carried out on teachers in rural areas [36] Alternative Basic Education [34] and university students [2]. Not only students can use WhatsApp to plan their activities and organize group work to fulfill their tasks [16] but also enables teachers to organize and plan their teaching work. WhatsApp acts as a digital filing cabinet to which the teacher permanently goes to retrieve documents, information, and teaching resources such as reading sheets, PPTs, or links of professional interest that facilitate their teaching work. It serves as a portable memory of pending tasks and activities.

When WhatsApp is used as an academic network for work communication, the study shows that the work performance of teachers in urban areas is favored (Rho 0.653 = and P-value = 0.000). It is a space for informal communication where you can inter learn thanks to the exchange of information, knowledge, and learning spaces or opportunities. Not only can students coordinate work, exchange information, and plan activities, as indicated by Meza et al. [16] or use it to communicate quickly with the teacher [17, 18], a means allows the empowerment of teaching capacities. Through WhatsApp groups, the teacher can self-manage their learning, acquire knowledge by accessing a select amount of information, promote the construction of group and individual knowledge, and link themselves to various technological tools [13]. This reflection is corroborated by studies carried out on teachers in rural areas [36], on ABE teachers [34], and on university students [2] in whom positive correlations were also found.

In relation to the use of WhatsApp for interpersonal relationships, although Camavilca [36] warned that WhatsApp fulfills a function of social interaction, as well as pedagogical and educational purposes, the study shows that when WhatsApp is used for interpersonal relationships, it enhances teachers' work performance (Rho = 0.853 and P-value = 0.000). The exchange of messages and ideas via WhatsApp groups brings colleagues closer together and strengthens communicative ties, leading to the emergence of leaders in real life. They can comment on the progress of the activities, request support, share good humor, clear doubts, and make better decisions with warmth and professional quality. García et al. [17] have already warned that even students feel more secure when expressing themselves on WhatsApp. These results are ratified by the studies of Arias-Avilés [19] and Camavilca [36] in rural teachers, by Flores and Huaman [34] in ABE teachers, and by Veytia and Bastidas [2] in university students, who affirm that it is a promoter of interpersonal relationships, of interaction at the group level.

And when WhatsApp is used for teaching and learning, it has a positive effect on teachers' work performance (Rho = 0.703 and P-value = 0.000); that is, the use of WhatsApp, despite not being designed for pedagogical purposes, enhances teacher performance. This statement is corroborated by Arévalo et al. [18] and Flores and Huaman [34], who states that it is a tool for collaborative work, a technological support in the educational process with a great impact on collaborative work by facilitating interaction and synergy between teacher and student. WhatsApp is a digital ally for the teaching-learning process due to the possibilities of sharing documents, videos, photos, audios, and web pages, promoting participation, reading texts, carrying out diagnostic evaluations, and debating a topic [13]. Therefore, it is not true what Marrero Pérez et al. [8] and Meza et al. [16] indicate, that the use of social networks in teaching practice is limited to isolated and individual experiences and that its application in the education sector is slow and difficult. The social reality is broader and richer.

5. Conclusion

According to the study, there is a very high and significant positive relationship between the use of WhatsApp as an academic social network and the work performance of teachers in urban basic educational institutions in the Puno – Peru region ($Rho = 0.978$ and $P\text{-value} = 0.000 < 0.05$). That is, the greater the management of WhatsApp for academic and work purposes, the higher the level of work performance. When WhatsApp is used as a support resource for professional and work activities, specifically in the organization, planning, execution, and control of academic activities, the teacher's development is favored. As an ally of education, it is not only an instrument for self-management of learning but also a tool for mobile self-management of teaching. It is a strategic ally of teaching. As an academic management tool, it allows access to academic information and training spaces, democratizing scientific knowledge and contributing to the strengthening of professional capacities and skills. As a digital resource for administrative management, it allows the organization of work activities and the control of teaching functions via virtual monitoring. It is not only possible to carry out commercial, social, and recreational activities but also educational and training activities.

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