

MANAGER COMMUNICATION STYLE AND WORK ENGAGEMENT OF EMPLOYEES IN HEALTHCARE SERVICES

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ABSTRACT

Managers employed in public healthcare systems are in charge of many jobs, including administration and organisation of procedures, but the most important of all is human resource management. Every manager must have certain communication competencies because one of the main characteristics of good leadership is the quality of communication with employees. This research aimed to examine how the communication and support of the immediate superior, the nurse manager, affects the work engagement of nurses. The survey was conducted online based on a specially constructed questionnaire. The research sample consists of nurses employed in the public hospital system of the Republic of Croatia. The results showed that there were differences in the work engagement of nurses with respect to the perception of different communication styles of nurse managers, as well as that there was a correlation between the perception of nurse manager support and the work engagement of nurses. It was also found that there was a different association between different communication styles and supervisor support. Nurse managers do not work directly with patients, but the way they communicate indirectly affects the quality of health care. Therefore, it is extremely important to use an assertive communication style and provide support to nurses who directly pursue nursing care, which ultimately leads to a better quality of health care for the users.

KEY WORDS

communication style, healthcare system, nursing management, supervisor support, work engagement

CLASSIFICATION

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INTRODUCTION

Managers employed in public healthcare systems are in charge of many jobs, including administration and organisation of procedures, but the most important of all is human resource management. Every manager must possess well-developed communication competencies because communication is the main tool in human resource management, and it can be said that quality communication with employees is one of the fundamental characteristics of good leadership. Their subordinates perceive managerial communication as the way of their leadership, but managers are often not aware of that, so they do not give enough importance to communication [1]. Successful execution of management functions is the result of successful communication [2], and research finds that there is a strong connection between supervisor communication competence and job satisfaction [3] as well as satisfaction with managerial communication is associated with employee relational outcomes [4]. Employees whose managers possess good communication skills are more engaged and more innovative, and they are less likely to leave their jobs [5], which is extremely important due to healthcare worker shortages, both globally and in Croatia. Another research shows that a leader's communication style can be directly related to employees' attitudes and behaviours [6]. Dasgupta et al. [6] also found that there is a connection between managerial communication style and the perception of supervisor support. In contrast, other authors [7, 8] found that there is a connection between perceived supervisor support and work engagement. Lappalainen et al. [9] conducted their research on employees from the private and public sectors (including healthcare workers), and the results showed that there is a positive connection between assertiveness and employee engagement. According to the Croatian Institute of Public Health [10], nurses represent the most numerous professions, with a share of 43.1% of all health professionals employed in the Croatian healthcare system. Nurses are the bearers of nursing care (which is an integral part of healthcare services), and the communication competence of nurse managers is one of the most important factors that can improve efficiency in achieving the objectives in healthcare institutions [11]. Considering those facts, this research was conducted on a sample of nurses, and it was based on assertive communication in nursing management and nurses' work engagement. This research aimed to examine how the communication and support of the immediate superior, the nurse manager, affects the work engagement of nurses who are employed in the public health system of the Republic of Croatia. The research had a goal to answer the following research questions:

- RQ₁:** Is there a connection between the different communication styles of the nurse manager and the work engagement of nurses?
- RQ₂:** Is there a connection between the assertive communication style of the nurse manager and the support of the immediate superior nurse manager?
- RQ₃:** Is there a connection between the support of the immediate superior nurse manager and the work engagement of nurses?

Therefore, the purpose of this research was to examine the connection between perceived managerial communication style (assertive, passive (unassertive) and aggressive), perception of manager's support and nurses' work engagement.

The paper is structured as follows. After the introduction, an overview of the literature on assertive communication, organisational and supervisory support and work engagement was presented. In addition to the presentation of the theoretical background, the same section also presents previous research based on which the research propositions were formed. After that follows the section on research methodology, in which the characteristics of the participants are presented, as well as the research instrument and procedure. The obtained results are presented in the section on research findings, and the paper ends with a section discussion and

conclusion. In the last section, along with the discussion and conclusion, limitations and direction of further research are presented.

LITERATURE REVIEW

ASSERTIVE COMMUNICATION

Ames [12] states that assertiveness is a basic component of successful leadership, and therefore, it is necessary for interpersonal and organisational effectiveness. Dasgupta et al. [6] found that when managers communicate with an assertive communication style, it leads to a higher perception of supervisor support, and a higher perception of supervisor support increases satisfaction with communication of supervisors and organization-based self-esteem. The result is a stronger emotional connection with the organisation, which ultimately leads to a reduction in absenteeism. Assertive communication consists of the honest expression of thoughts and feelings and standing up for one's rights while at the same time respecting the rights of other people [13]. Assertiveness as a communication style significantly affects the process of building trust between superiors and employees [14], increases work motivation [15], and positively affects conflict resolution [16]. Following the above, the first research proposition was formed:

RP₁: There is a positive relationship between the assertive communication style of the nurse manager and the work engagement of nurses.

Contrary to the first research proposition, it was assumed that passive and aggressive communication would be negatively correlated with work engagement, so the following two research propositions were formed:

RP₂: There is a negative relationship between the passive communication style of the nurse manager and the work engagement of nurses.

RP₃: The aggressive communication style of the nurse manager negatively affects nurses' work engagement.

People who communicate with an assertive style more often notice behaviours that can be a source of conflict as well as problems in the organisation. They also less often have conflicts with subordinates, more often resolve conflicts immediately and more often resolve conflicts personally rather than hierarchically [16]. However, the application of assertiveness in communication with employees can also be a challenge because, in addition to positive consequences, assertive communication can have negative consequences if the manager is "overly" assertive [12]. There are certain shortcomings and obstacles when using an assertive style of communication, and other authors, so Sindik et al. [17] argue that the excessive use of assertive communication, especially when it comes to managerial communication, can border on aggressiveness, which can obstruct effective communication. Alargić and Atanasijevski-Đurić [18] state that it is not possible to apply an assertive style of communication in any situation or communication with any person because sometimes other people do not accept assertiveness in communication. They also state that people who communicate assertively can give the impression of arrogance or aggressiveness, which is a consequence of a lack of social skills. On the other hand, workers may be held back from acting assertively for fear of upsetting the working climate or interpersonal relationships [19]. In order to avoid the mentioned negative consequences and obstacles, nurse managers must know how to use assertiveness in communication with their employees. Stojčić et al. [16], in their research, which was conducted on nurses, found that older participants showed a statistically significantly lower level of assertiveness compared to younger participants. Assertiveness is a learnable skill [9], and this was proved by research conducted on nursing students. Lin et al. [20] conducted experimental

research on nursing and medical students, and the results showed that students from the experimental group showed higher levels of assertiveness after attending the assertiveness training program. Moreover, Ilhan et al. [21] point out that assertiveness can be improved during nursing studies without any special education in assertiveness. Besides formal nursing education, Ardita et al. [15] place emphasis on nurse managers who should conduct assertive communication workshops with nurses in their work units with the aim of achieving better work motivation, which will ultimately lead to better quality nursing care. So, it is necessary that assertive skills are acquired during nursing education, and later education during work should not be neglected either.

ORGANISATIONAL AND SUPERVISOR SUPPORT

When it comes to perceived organisational support, various studies have determined that a higher perception of organisational support contributes to more effective achievement of organisational goals. In their research, Neves and Eisenberger [22] found that there is a positive connection between the manager's communication and perceived organisational support. They determined that high-quality communication management affects the work performance of employees because it signals that the managers (i.e. the organisation) value the contribution of their employees and that managers care about the well-being of their employees. In accordance with the research above, a fourth research proposition was formed:

RP₄: There is a positive relationship between the nurse manager's assertive communication style and organisational support, i.e., the support of the immediate superior nurse manager.

Furthermore, research shows that there is a positive connection between perceived supervisor support and work commitment [23], as well as perceived organisational support and organisational commitment [24]. The same was determined in the sample of nurses. Nurses who perceived higher levels of organisational and supervisor support show higher levels of work engagement [7, 8], higher levels of job satisfaction and consequently a higher level of organisational commitment [25]. In their research, Ho et al. [26] proved that nurses who perceived higher levels of organisational support show not only higher levels of job satisfaction but also higher satisfaction of working with their managers and better results of nursing care. Due to such research findings, the fifth research proposition was formed:

RP₅: There is a positive relationship between organisational support, i.e., the support of the immediate superior nurse manager, and nurse work engagement.

In another study, which was also conducted on a sample of nurses, it was found that there is a negative relationship between perceived organisational support and the level of turnover intention, burnout and reduced personal achievement [27]. Chen & Chen [28] determined that supervisor support has a positive effect on burnout among nurses. The positive effects of highly perceived organisational support were also observed during the Covid-19 pandemic, in which perceived organisational support turned out to be a protective factor in the prevention of anxiety, which means that nurses who perceived a higher level of organisational support showed a lower level of anxiety related to Covid-19 [29].

WORK ENGAGEMENT

Work engagement is important in every organisation, especially in the healthcare system, where the main goals are focused on human health. Due to different research, it is determined that work engagement is positively associated with job performance [30, 31], better patient outcomes [5] and patient safety [32]. Work engagement affects achieving more effective

organisational goals [33], and there is also a positive correlation between work engagement and job satisfaction [7]. Sawatzky & Enns [34] state that the lack of nursing work engagement is one of the key factors that result in leaving their workplace. A negative connection between work engagement and turnover intention was also found in other research that was conducted on nurses and healthcare professionals [7, 35]. García-Sierra et al. [30] point out that engagement is a result of the interaction between different factors that are associated with professional environments and, as such, it is susceptible to modification. Nurse managers should work on fostering work engagement in their organisational units, and managerial communication is one of the main factors that influence work engagement. So, nurse managers have to use their communication skills with the aim of ensuring job satisfaction and also to provide higher quality nursing care to healthcare users.

RESEARCH MODEL

Based on the stated research propositions, the following research model has been developed, Figure 1.

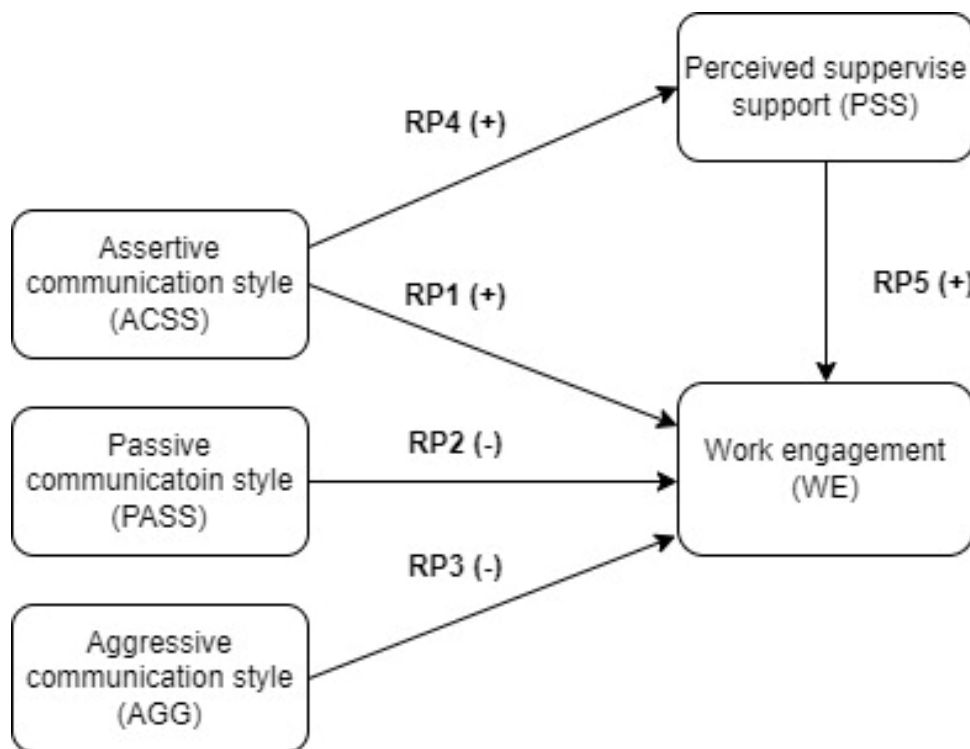


Figure 1. Research model.

RESEARCH METHODOLOGY

SAMPLE DESCRIPTION

The research sample consists of nurses employed in the public hospital system of the Republic of Croatia.

Nursing is a regulated profession, and its basic activity is nursing care. Only nurses can perform nursing care, and only within the scope of competencies they acquire through their education. Nursing education in the Republic of Croatia is carried out at the high school and academic levels (undergraduate and graduate nursing studies). Although there are still no nursing studies at the postgraduate level in the Republic of Croatia, nurses can enrol in postgraduate studies, for example, in the field of public health or management.

Nursing care is focused on the patient, as well as on the healthy individual and the entire community. Therefore, nurses can be employed in many different places, such as kindergartens, physicians' offices, public health institutions, home healthcare services, nursing care facilities, etc. In general, their workplaces are most often in health, social, and educational institutions. According to the report of the Croatian Institute of Public Health [10], 32,383 nurses were employed in the Croatian healthcare system in 2021. Still, there is missing data about the number of nurses employed only in public hospitals. However, according to the number of public hospitals and the number of patients' beds inside them, as well as the fact that public hospitals provide health care 24 hours a day, it can be concluded that the largest number of nurses work exactly in the public hospital system. For that reason, nurses employed in the public hospital system of the Republic of Croatia were selected for the sample in this research, and that was strictly stated in the description of the research, which was in the introductory part of the questionnaire. In order to reach the target population, the survey questionnaire was distributed via social networks during June and July 2022.

Participation in the research was voluntary and anonymous. The collected data was analysed using descriptive statistics and correlation analysis. Correlation analyses were conducted using IBM SPSS Statistics 28.0 software.

A total of 138 respondents completed the survey, of which 84.78% were women and 15.22% were men. The average age of the participants is 33.24, with the youngest participant being 20 years old and the oldest 60.

Regarding education, 34.78% of participants have completed high school nursing programs, 44.93% have completed undergraduate nursing studies (bachelor's degree level), 15.22% have completed graduate nursing studies (master's degree level), and 5.07% have completed postgraduate specialist studies and postgraduate doctoral studies.

The distribution of participants by the level of education is shown in Table 1.

Table 1. Distribution of participants by level of education.

Level of Education	<i>N</i>	%
High School	48	34.78
Bachelor's Degree	62	44.93
Master's Degree	21	15.22
PhD and Postgraduate Studies	7	5.07
In total	138	100.00

34.78% of participants were employed in a hospital ward, 21.01% in emergency departments, 15.94% in intensive care units, 7.25% in polyclinics, and 21.01% at other workplaces in the Croatian public hospital system. Table 2 shows the distribution of participants by workplace.

Table 2. Distribution of participants by workplace.

Workplace	<i>N</i>	%
Hospital Ward	48	34.94
Intensive Care Unit	22	15.94
Emergency Department	29	21.01
Polyclinic	10	7.25
Others	29	21.01
In total	138	100.00

Out of the total number of participants, 28.26% hold some managerial positions at their workplace (team leader or head nurse), while the remaining 71.74% do not perform managerial duties.

RESEARCH INSTRUMENT

A survey questionnaire was specially constructed for this research, and it was comprised of four parts. The first part of the questionnaire refers to socio-demographic characteristics such as sex, age, education level and workplace.

The second part measured perceived managerial communication styles. The questionnaire refers to the perception of the communication style of the immediate superior (head nurse or nurse who is the team leader if the employees work in teams), and it is based on the test of communication styles developed by Brigham Young University [36]. The questionnaire consists of 24 items that assess three styles (assertive, passive (unassertive) and aggressive), which superiors can use in interaction with their employees [6]. The questionnaire is answered using a five-point Likert scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

In the third part, the support of managers to employees was measured using a short version of the Survey of Perceived Organizational Support [37]. For this research, the word “organisation” was replaced by the word “nurse manager”, which refers to the supervisor (an immediate superior nurse who is a team leader or head nurse). The questionnaire consisted of eight items that were answered using a seven-point Likert scale ranging from 0 (“Strongly disagree”) to 6 (“Strongly agree”).

In the fourth part, the shortened version of the Utrecht Work Engagement Scale [38] was used to examine nurses’ work engagement. The questionnaire consists of nine items answered using a seven-point Likert scale ranging from 0 (“Never”) to 6 (“Always – every day”).

All used constructs with their items are shown in Table 3.

RESEARCH FINDINGS

DESCRIPTIVE STATISTICS

Table 4 presents detailed results of descriptive statistics for all items grouped by variables. In the variable assertive communication style, item 5 has the highest mean of 3.87 with a standard deviation of 1.25. On the contrary, the lowest mean is item 6, with a mean of 1.96 and a standard deviation of 1.12. In the variable passive communication style, item 7 has the highest mean of 3.78 with a standard deviation of 1.10. Opposite of that, the lowest mean is item 6, with a mean of 2.18 and a standard deviation of 3.78. In the aggressive communication style, item 6 has the highest mean of 3.00 and a standard deviation of 1.38, while item 7 has the lowest mean of 2.35

Table 3. Constructs and items of the research instrument (continued on p.422).

Construct	Item code	Item	
Perceived managerial communication styles	Assertive style	ASS1	My nurse manager is able to recognise and express their good points.
		ASS2	My nurse manager is able to express negative feelings about other people and their actions without being abusive or cruel.
		ASS3	My nurse manager is able to receive compliments without denying them.
		ASS4	My nurse manager usually stands up for their rights and lets other people do the same.
		ASS5	My nurse manager is able to start or carry on with conversations comfortably.
		ASS6	My nurse manager can ask for what is rightfully theirs.
		ASS7	My nurse manager can take criticism without becoming defensive.
		ASS8	My nurse manager can easily express positive feelings about other people and what they do.

Table 3. Constructs and items of the research instrument (continuation from p.421).

Perceived managerial communication styles	Passive style	PASS1	My nurse managers feel guilty when they stand up for their rights or express their feelings.
		PASS2	My nurse manager let other people take unfair advantage of them.
		PASS3	My nurse manager does not express their views and feelings.
		PASS4	My nurse manager has difficulty saying “no” when they do not want to say “yes” to someone’s request.
		PASS5	My nurse manager has difficulty making reasonable requests of other people.
		PASS6	My nurse manager has difficulty recognising and expressing their good points.
		PASS7	My nurse manager rarely stands up for their rights.
		PASS8	My nurse manager usually feels good at first about getting their way but also feels guilty later because of how they went about it.
	Aggressive style	AGG1	My nurse manager often brags and makes unrealistic claims about their good points.
		AGG2	My nurse manager sometimes makes other people look or feel stupid, small, or afraid.
		AGG3	My nurse manager often ignores another person’s rights.
		AGG4	My nurse manager frequently takes unfair advantage of other people.
		AGG5	My nurse manager often makes unreasonable demands of other people.
		AGG6	My nurse manager often monopolises conversations.
		AGG7	My nurse manager sometimes becomes physically or verbally abusive when they are angry with someone or when they are criticising someone.
		AGG8	My nurse manager cannot comfortably start or carry on with conversations.
Perceived supervisor support	PSS1	My nurse manager values my contribution to its well-being.	
	PSS2	My nurse manager fails to appreciate any extra effort from me.*	
	PSS3	My nurse manager would ignore any complaint from me.*	
	PSS4	My nurse manager really cares about my well-being.	
	PSS5	Even if I did the best job possible, my nurse manager would fail to notice.*	
Perceived supervisor support	PSS6	My nurse manager cares about my general satisfaction at work.	
	PSS7	My nurse manager shows very little concern for me. *	
	PSS8	My nurse manager takes pride in my accomplishments at work.	
Work engagement	WE1	At work, I feel bursting with energy.	
	WE2	At my job, I feel strong and vigorous.	
	WE3	I am enthusiastic about my job.	
	WE4	My job inspires me.	
	WE5	When I get up in the morning, I feel like going to work.	
	WE6	I feel happy when I am working intensely.	
	WE7	I am proud of the work that I do.	
	WE8	I am immersed in my work.	
	WE9	I get carried away when I am working.	

*reverse scored items

and a standard deviation of 1.51. Results also reveal that in perceived supervisor support, item 1 has the highest mean of 4.02 and a standard deviation of 1.85, and the lowest mean is item 6, with a mean of 3.15 and a standard deviation of 1.99. In the last variable, work engagement, item 7 has the highest mean of 5.10 and a standard deviation of 1.27. The lowest mean in the same variable is item 5, with a mean of 3.05 and a standard deviation of 1.76.

Table 4. Results of descriptive statistics for all items grouped by variables, $N = 138$.

Construct	Item code	Min	Max	Mean	St. Dev	
Perceived managerial communication styles	Assertive style	ASS1	1	5	3.59	1.21
		ASS2	1	5	3.16	1.29
		ASS3	1	5	3.75	0.97
		ASS4	1	5	3.32	1.14
		ASS5	1	5	3.87	1.25
		ASS6	1	5	1.96	1.12
		ASS7	1	5	2.80	1.36
		ASS8	1	5	3.64	1.15
	Passive style	PASS1	1	5	2.21	1.20
		PASS2	1	5	2.31	1.32
		PASS3	1	5	2.28	1.22
		PASS4	1	5	2.60	1.33
		PASS5	1	5	2.75	1.40
		PASS6	1	5	2.18	3.78
		PASS7	1	5	3.78	1.10
		PASS8	1	5	2.23	1.14
	Aggressive style	AGG1	1	5	2.71	1.47
		AGG2	1	5	2.94	1.61
		AGG3	1	5	2.64	1.41
		AGG4	1	5	2.66	1.48
		AGG5	1	5	2.86	1.45
		AGG6	1	5	3.00	1.38
		AGG7	1	5	2.35	1.51
		AGG8	1	5	2.00	1.23
Perceived supervisor support	PSS1	0	6	4.02	1.85	
	PSS2	0	6	3.57	2.17	
	PSS3	0	6	3.75	1.95	
	PSS4	0	6	3.58	1.90	
	PSS5	0	6	3.75	2.13	
	PSS6	0	6	3.15	1.99	
	PSS7	0	6	3.68	1.98	
	PSS8	0	6	3.30	1.98	
Work engagement	WE1	0	6	3.49	1.53	
	WE2	0	6	3.63	1.52	
	WE3	0	6	3.86	1.51	
	WE4	0	6	4.01	1.67	
	WE5	0	6	3.05	1.76	
	WE6	0	6	3.73	1.65	
	WE7	0	6	5.10	1.27	
	WE8	0	6	4.64	1.48	
	WE9	0	6	3.89	1.67	

Table 5 presents the descriptive statistics for perceived managerial communication styles, PSS, and WE among 138 nurses in the public hospital system of the Republic of Croatia. Notably, while AGG, PASS, and ACSS have scores on a 1 to 5 scale, both PSS and WE are measured on a 1 to 7 scale, which allows for a more nuanced understanding of these aspects.

Table 5. Descriptive statistics of perceived managerial communication styles, PSS and work engagement, $N = 138$.

Variable	Min	Max	Mean	St. Dev.
AGG	1	5	2.64	1.185
PASS	1	5	2.54	0.639
ACSS	1	5	3.26	0.741
PSS	0	6	3.60	1.735
WE	0	6	3.93	1.240

The mean score for AGG is 2.64, suggesting that nurses generally perceive a moderate level of aggressive communication style from their managers. For PASS, the mean is slightly lower at 2.54, indicating that the passive communication style is perceived at a somewhat similar yet slightly less frequent level. The mean score for ACSS is 3.26, reflecting a moderate to somewhat higher presence of assertive communication styles as perceived by the nurses.

For PSS, with a mean of 3.60 on a 0 to 6 scale, the data shows that nurses perceive a moderate level of support from their immediate supervisors, though there is room for improvement. Finally, WE has the highest mean of 3.93, also on a 0 to 6 scale, indicating a relatively positive level of work engagement among the nurses.

These findings support the research's broader conclusion that different communication styles and the level of support provided by nurse managers significantly affect nurses' work engagement. The variability in responses, especially in PSS and WE, emphasises the importance of nurse managers adopting communication and support strategies that enhance engagement and ultimately improve the quality of patient care.

CORRELATION ANALYSIS

The research found that there is a different correlation between the nurse manager's different communication styles and nurses' work engagement, as well as between different communication styles and supervisor support.

Table 6 presents the correlation matrix for the average research variables, highlighting the relationships between different communication styles (AGG, PASS, ACSS), perceived supervisor support (PSS), and work engagement (WE) among nurses.

The positive correlation between AGG and PASS ($r = 0.422$, $p < .001$) suggests that these two communication styles may co-occur, though they are both generally less favourable styles. A strong negative correlation is observed between AGG and ACSS ($r = -0.787$, $p < .001$), indicating that as aggressive communication increases, assertive communication decreases, which aligns with the distinct nature of these styles. AGG also shows a strong negative correlation with PSS ($r = -0.845$, $p < .001$), implying that more aggressive communication is associated with lower perceived supervisor support.

PASS has a weaker negative correlation with ACSS ($r = -0.350$, $p < .001$) and a moderate negative correlation with PSS ($r = -0.408$, $p < .001$), suggesting that passive communication also negatively impacts assertive communication and perceived support.

ACSS, on the other hand, has a strong positive correlation with PSS ($r = 0.789$, $p < .001$), indicating that assertive communication is positively associated with higher perceived support

from supervisors. ACSS is also positively correlated with WE ($r = 0.349, p < .001$), though this relationship is moderate, suggesting that assertive communication can enhance work engagement. Lastly, PSS is positively correlated with WE ($r = 0.524, p < .001$), suggesting that higher levels of perceived supervisor support are significantly associated with greater work engagement among nurses. Results are shown in Table 7 and presented in Figure 2.

Table 6. Correlation matrix for average research variables.

Variable		AGG	PASS	ACSS	PSS	WE
1. AGG	Pearson's r	1				
	p-value					
2. PASS	Pearson's r	0.422	1			
	p-value	< .001				
3. ACSS	Pearson's r	-0.787	-0.350	1		
	p-value	< .001	< .001			
4. PSS	Pearson's r	-0.845	-0.408	0.789	1	
	p-value	< .001	< .001	< .001		
5. WE	Pearson's r	-0.414	-0.261	0.349	0.524	1
	p-value	< .001	0.002	< .001	< .001	

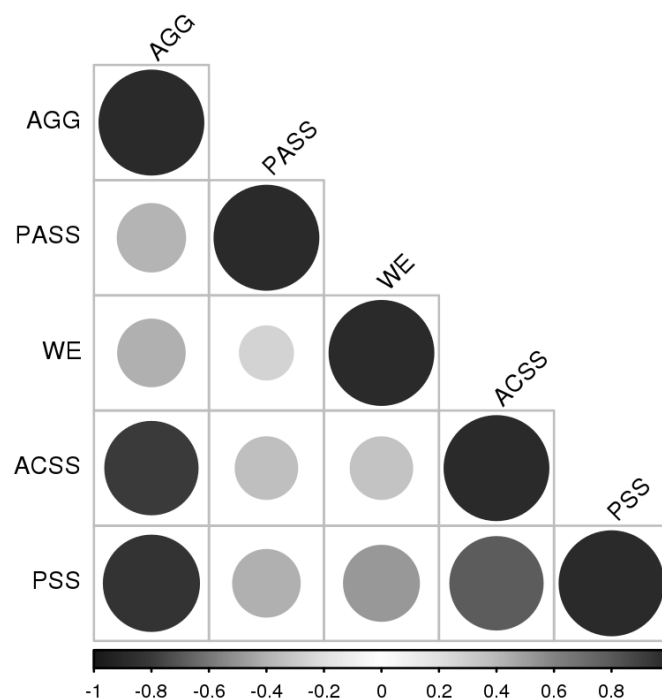


Figure 2. Correlation matrix for the average research variables.

Relationship between the Assertive Communication Style of the Nurse Manager and the Work Engagement of Nurses (RP₁)

RP₁ presumes that there is a positive relationship between the assertive communication style (ACSS) of the nurse manager and the work engagement (WE) of nurses. The correlation analysis, as outlined in Table 6, indicated that there is a positive correlation. Figure 3 presents the scatter plot of assertive communication style and work engagement, which confirms these results.

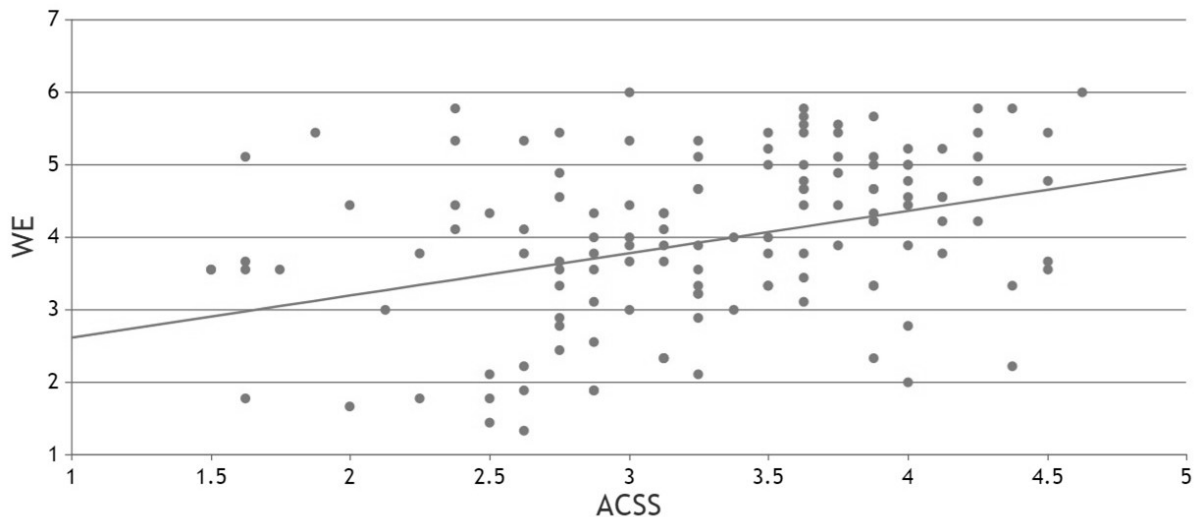


Figure 3. Scatter plot of assertive communication style and work engagement.

Figure 4 presents the heatmap of the correlation between individual items of these two variables. Pearson's correlation analysis reveals several important relationships between perceived managerial communication styles and work engagement among employees. One of the key findings is the strong positive correlation between assertive communication traits, such as the ability to recognise and express good points (ACSS1) and standing up for rights (ACSS4), and employee engagement. This suggests that managers who are confident in their communication and assertive in expressing their views tend to foster higher levels of work engagement among their staff.

Another significant result is the moderate positive correlation between managers' ability to express negative feelings constructively (ACSS2) and various aspects of work engagement. This indicates that managers who can provide feedback without being harsh or cruel are more likely to have engaged employees, highlighting the importance of balanced communication in leadership.

Some weak or negative correlations were observed, such as the relationship between asking for what is rightfully theirs (ACSS6) and certain aspects of work engagement, like feeling strong and vigorous at work (WE2). These findings suggest that while assertiveness is generally beneficial, certain assertive behaviours might not always align with higher employee energy levels, pointing to the complexity of communication dynamics in the workplace.

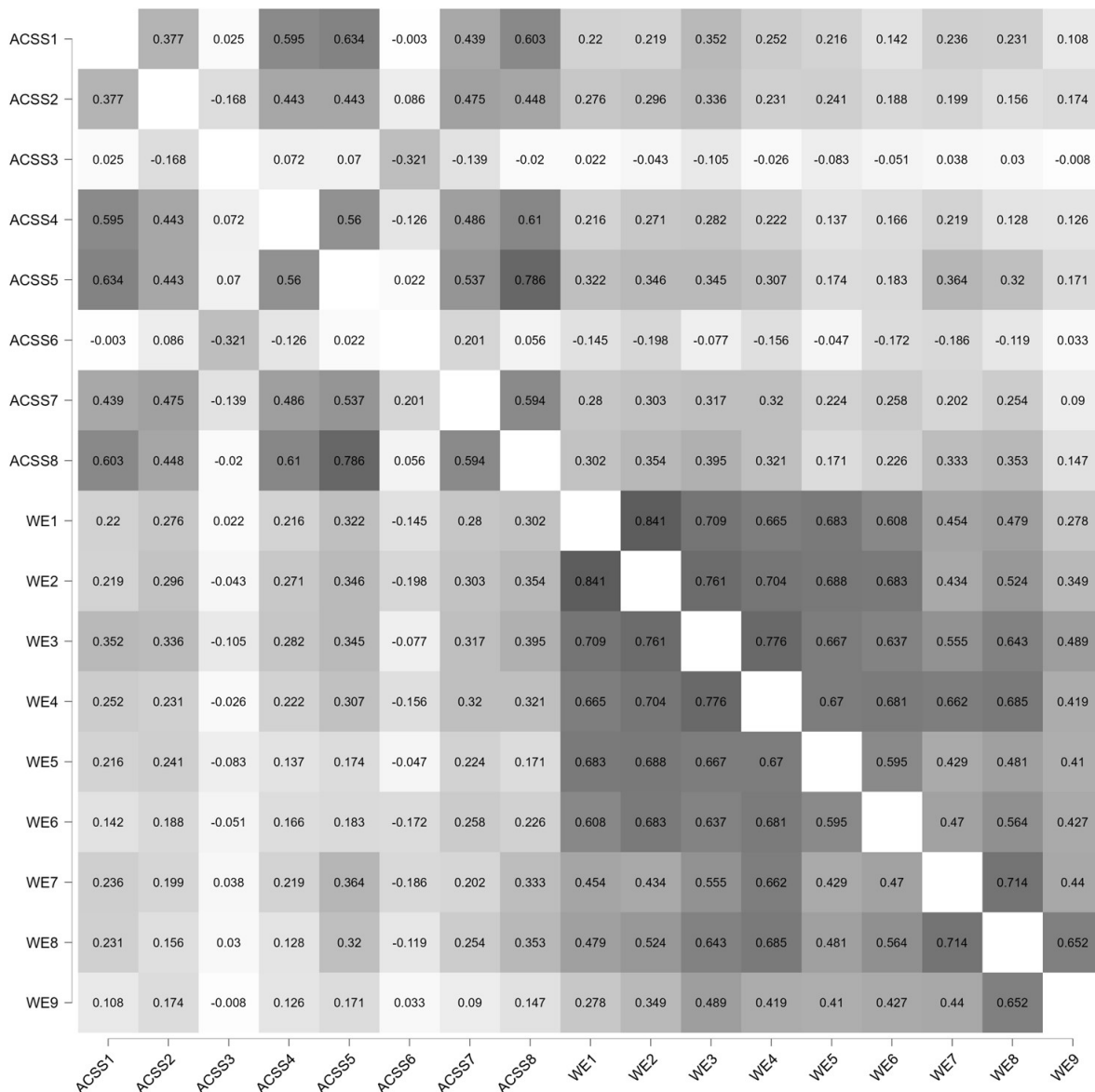


Figure 4. Heatmap of assertive communication style and work engagement – individual items.

Relationship between the Passive Communication Style of the Nurse Manager and the Work Engagement of Nurses (RP₂)

RP₂ presumes that there is a negative relationship between the nurse manager’s passive communication style (PASS) and nurses’ work engagement (WE). The correlation analysis, as outlined in Table 6, indicated a negative correlation. Figure 5 presents the scatter plot of passive communication style and work engagement, which confirms these results.

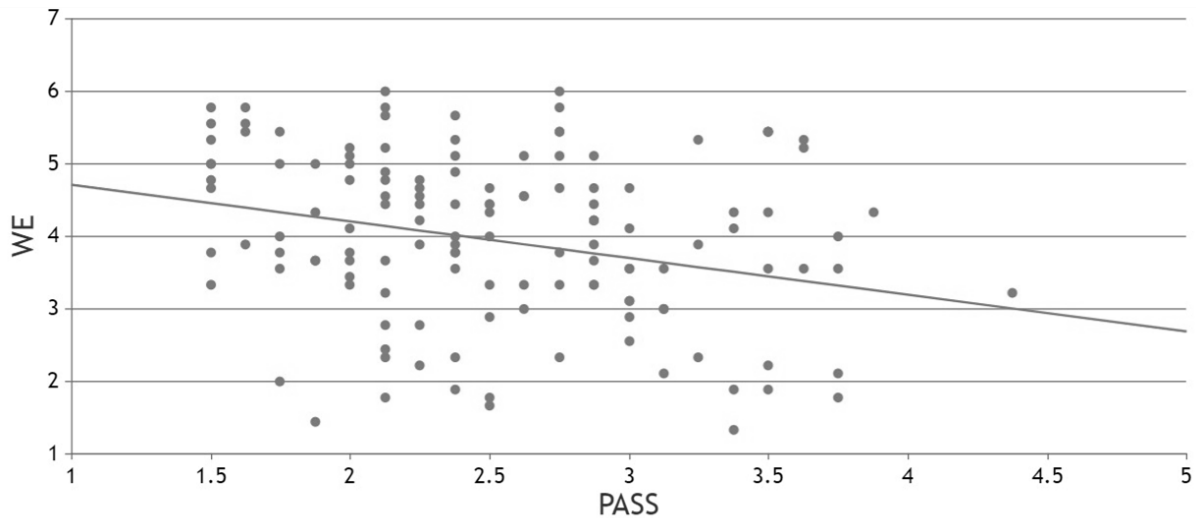


Figure 5. Scatter plot of passive communication style and work engagement.

Figure 6 presents the heatmap of the correlation between individual items of these two variables. The correlation matrix provided reflects the relationships between various constructs related to managerial communication styles, perceived supervisor support, and work engagement. Among the notable findings, the Assertive style (represented by items ASS1 to ASS8) generally shows positive correlations with work engagement (WE1 to WE9). For example, PACSS1 (likely corresponding to assertive communication styles) has a moderate positive correlation with WE8 ($r = 0.391$, $p < 0.001$) and WE2 ($r = 0.314$, $p < 0.001$), suggesting that assertive communication by nurse managers is associated with higher levels of work engagement among staff, particularly in terms of energy, enthusiasm, and immersion in work.

In contrast, the Passive style (represented by PASS1 to PASS8) shows weaker or even negative correlations with work engagement. For instance, PACSS7, which may correspond to passive communication behaviours, is negatively correlated with several work engagement items, such as WE2 ($r = -0.255$, $p = 0.002$) and WE4 ($r = -0.085$, $p = 0.322$). This indicates that passive communication styles, where managers avoid expressing their views or standing up for their rights, could potentially decrease work engagement, likely due to a lack of clear leadership or support felt by employees.

Aggressive communication styles (AGG1 to AGG8) also appear to negatively impact work engagement, although the correlations vary in strength. PACSS6, possibly reflecting more aggressive managerial behaviours, is negatively correlated with several work engagement items like WE5 ($r = -0.111$, $p = 0.195$) and WE6 ($r = -0.099$, $p = 0.246$). These findings suggest that when managers exhibit aggressive communication, it may demotivate staff and reduce their enthusiasm, energy, and satisfaction at work, highlighting the detrimental impact of such styles on workplace morale.

Finally, perceived supervisor support (PSS1 to PSS8) generally correlates positively with work engagement. For instance, high correlations between the perceived support variables and work engagement items (like WE1, WE2, and WE3) suggest that when employees feel supported by their managers, they are more likely to be engaged, energetic, and enthusiastic about their work. This underscores the importance of supportive managerial behaviours in fostering a positive work environment and enhancing employee engagement.

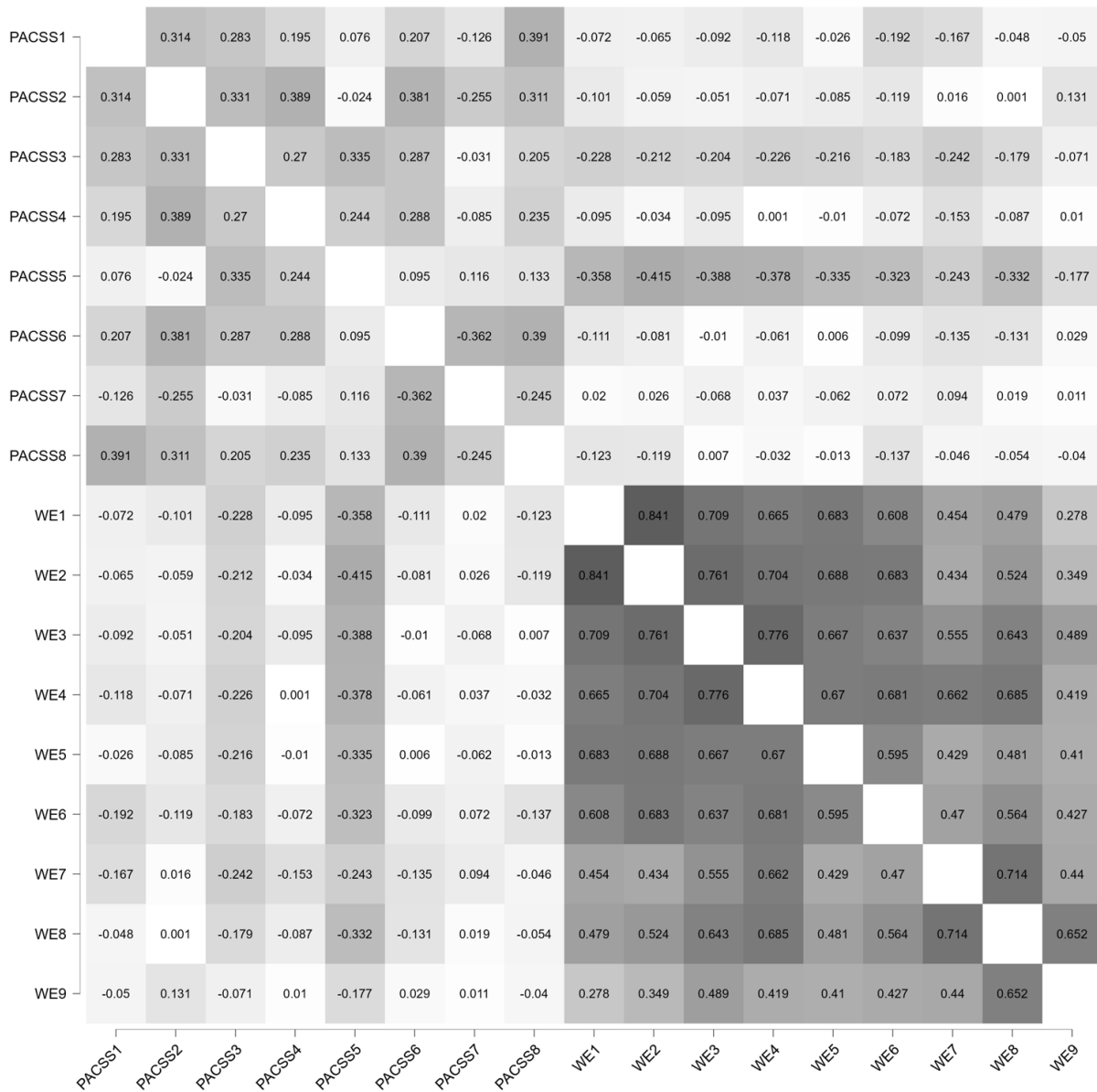


Figure 6. Heatmap of passive communication style and work engagement – individual items.

Relationship between the Aggressive Communication Style of the Nurse Manager and Nurses' Work Engagement (RP₃)

RP₃ presumes that there is a negative relationship between the nurse manager's aggressive communication style (AGG) and nurses' work engagement (WE). The correlation analysis, as outlined in Table 6, indicated a negative correlation. Figure 7 presents the scatter plot of aggressive communication style and work engagement, which confirms these results.

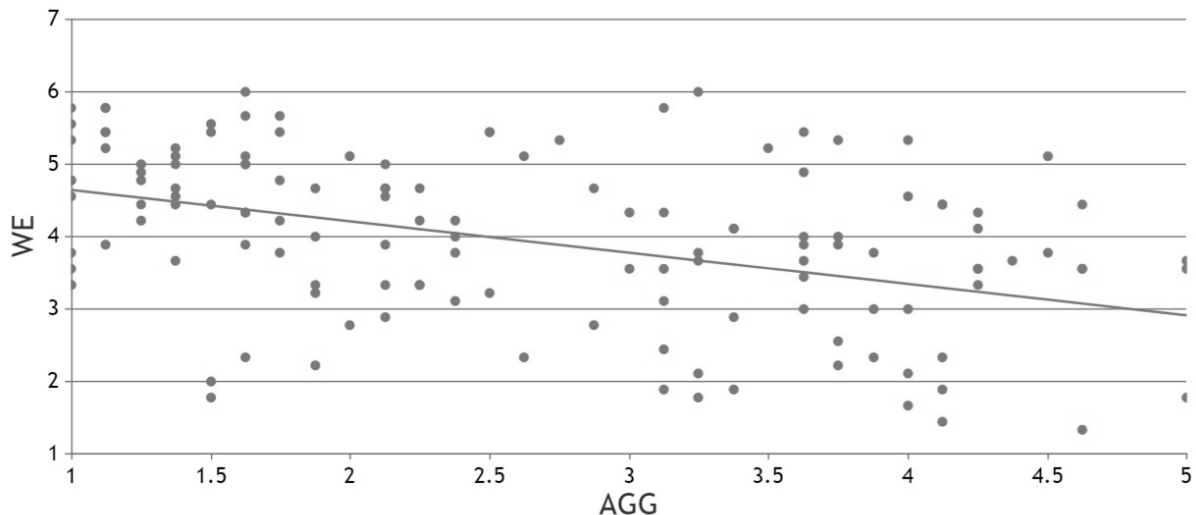


Figure 7. Scatter plot of the aggressive communication style of the nurse manager and nurses' work engagement.

Figure 8 presents the heatmap of the correlation between individual items of these two variables. Pearson's correlation analysis between aggressive managerial communication styles and work engagement reveals several key relationships that highlight the impact of negative communication behaviours on employee engagement. The analysis shows that aggressive communication styles (e.g., bragging, making others feel small, monopolising conversations) are strongly intercorrelated. For example, AGG1 (bragging) is highly correlated with AGG2 (making others look or feel small) and AGG4 (ignoring others' rights), suggesting that managers who exhibit one form of aggressive communication are likely to exhibit others.

A critical finding is the consistent negative correlation between all aggressive communication style items (AGG1-AGG8) and work engagement (WE1-WE9). These negative correlations, such as between AGG5 (making unreasonable demands) and WE3 (enthusiasm about the job), indicate that aggressive communication from managers significantly undermines employees' engagement levels. This suggests that employees are less likely to be enthusiastic, vigorous, and inspired at work when they perceive their managers as overly aggressive.

The strongest negative correlations are seen between AGG5 and several work engagement items, such as WE3, WE4, and WE8. This indicates that unreasonable demands and managers' monopolisation of conversations are particularly detrimental to employee engagement. The negative impact of these behaviours on work engagement is statistically significant across most of the items, underscoring the importance of reducing aggressive communication in the workplace.

Overall, the analysis unequivocally underscores the detrimental effect of aggressive managerial communication on work engagement. Managers who exhibit aggressive behaviors not only undermine individual aspects of employee engagement, such as enthusiasm and energy, but also contribute to a broader decline in overall work satisfaction. This stark reality underscores the urgent need for interventions aimed at curbing aggressive communication in leadership to foster a more positive and engaging work environment.

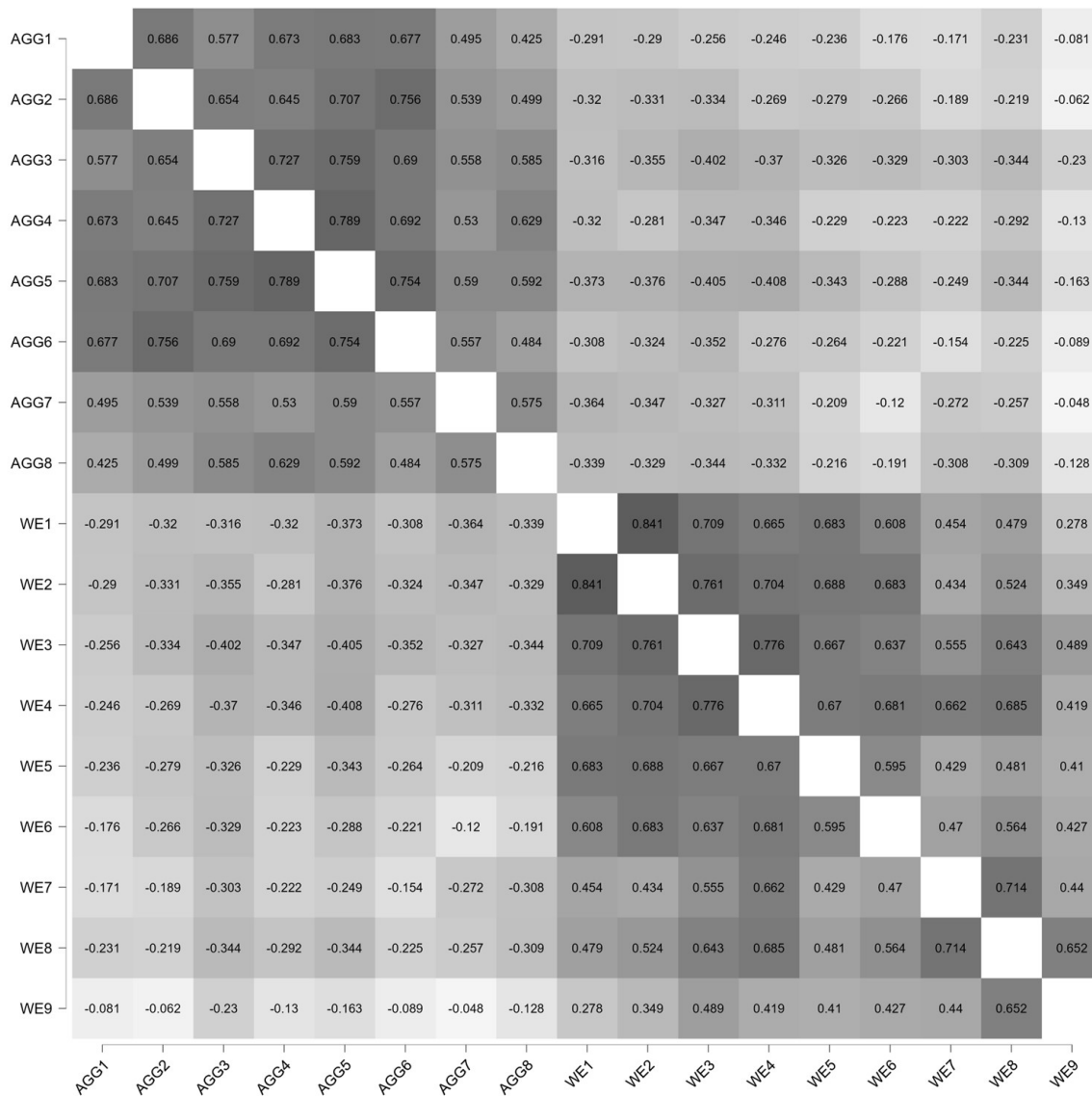


Figure 8. Heatmap of aggressive communication style and work engagement – individual items.

Relationship between the Nurse Manager’s Assertive Communication Style and Organisational Support, i.e., the Support of the Immediate Superior Nurse Manager (RP₄)

RP₄ presumes that there is a positive relationship between the nurse manager’s assertive communication style (ACCS) and organisational support, i.e., the support of the immediate superior nurse manager (PSS). The correlation analysis, as outlined in Table 6, indicated that there is a positive correlation. Figure 9 presents the scatter plot of the assertive communication style and the support of the immediate superior nurse manager, which confirms this result.

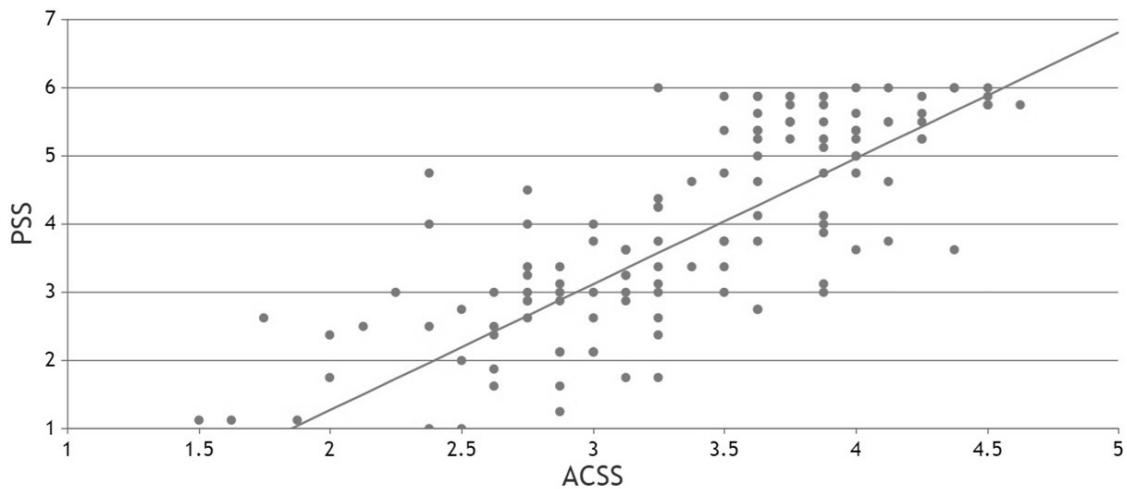


Figure 9. Scatter plot of assertive communication style and perceived supervisor support.

Figure 10 presents the heatmap of the correlation between individual items of these two variables. Pearson's correlation analysis between assertive communication styles (ACSS) and perceived supervisor support (PSS) reveals strong positive relationships, particularly highlighting how assertive managerial behaviours correlate with employees' perception of support from their supervisors. For instance, ACSS1 (recognising and expressing good points) and ACSS5 (being comfortable in conversations) show significant positive correlations with nearly all PSS items, indicating that managers who are confident and assertive in their communication are perceived as more supportive by their employees.

One of the most notable findings is the strong correlation between ACSS8 (expressing positive feelings about others), PSS1 (supervisor values employee contribution), and PSS4 (supervisor cares about employee well-being). This suggests that when managers actively express appreciation and positive feedback, employees feel more valued and supported, which is crucial for fostering a positive work environment.

Additionally, ACSS7 (taking criticism without becoming defensive) shows a significant positive relationship with several PSS items, such as PSS6 (supervisor cares about general satisfaction at work). This implies that managers who are open to feedback and handle criticism well are more likely to be viewed as supportive, further emphasising the importance of constructive communication in leadership.

It can be concluded that managers who exhibit assertive behaviours, particularly in giving and receiving feedback, are more likely to be seen as supportive, which can lead to higher job satisfaction and better employee outcomes.

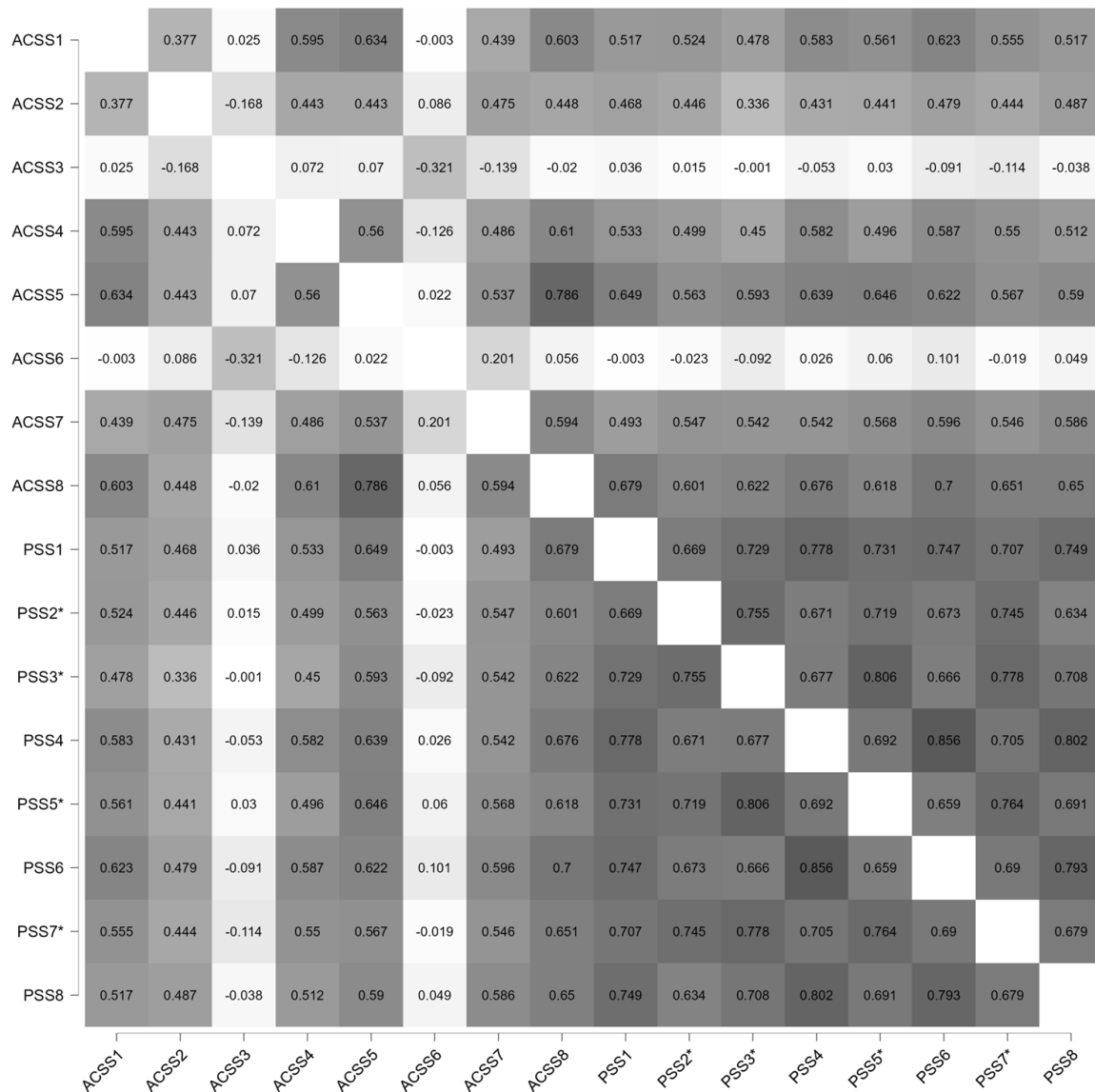


Figure 10. Heatmap of assertive communication style and perceived supervisor support – individual items.

Relationship between Organisational Support, i.e., the Support of the Immediate Superior Nurse Manager and Nurse Work Engagement (RP₅)

RP₅ presumes that there is a positive relationship between organisational support, i.e., the support of the immediate superior nurse manager (PSS), and nurse work engagement (WE). The correlation analysis, as outlined in Table 6, indicated that there is a positive correlation. Figure 11 presents the scatter plot of perceived supervisor support and work engagement of nurses, which confirms these results.

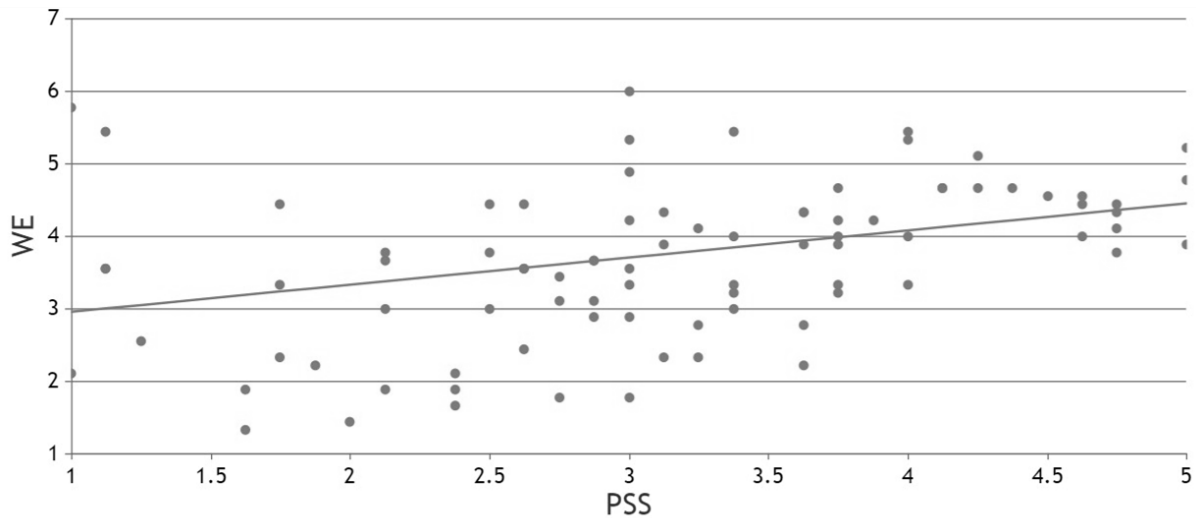


Figure 11. Scatter plot of perceived supervisor support and work engagement of nurses.

Figure 12 presents the heatmap of the correlation between individual items of these two variables.

Pearson's correlation analysis between perceived supervisor support (PSS) and work engagement (WE) reveals significant positive relationships, indicating that higher levels of perceived support from supervisors are strongly associated with greater employee engagement. PSS1 (supervisor values employee's contribution) shows a strong positive correlation with various work engagement items, such as WE2 (feeling strong and vigorous at work) and WE4 (being inspired by the job), suggesting that when employees feel valued by their supervisors, they are more likely to be engaged and motivated in their work.

The reverse-scored PSS items (e.g., PSS2, PSS3, and PSS5) also demonstrate strong correlations with work engagement, highlighting that when supervisors fail to appreciate employees' efforts or ignore complaints, it negatively impacts their work engagement. For instance, PSS3 (supervisor would ignore any complaint) is significantly negatively correlated with WE3 (enthusiasm about the job) and WE6 (happiness when working intensely), indicating that neglectful behaviour from supervisors can diminish employees' enthusiasm and overall work satisfaction.

PSS6 (supervisor cares about general satisfaction at work) and PSS8 (supervisor takes pride in employee accomplishments) are particularly strongly correlated with overall work engagement, with high correlations across multiple WE items. This suggests that when supervisors actively demonstrate concern for employees' well-being and take pride in their achievements, it leads to higher levels of energy, enthusiasm, and immersion in work among employees.

Supervisors who are supportive, attentive, and appreciative contribute significantly to higher levels of employee engagement, which is essential for maintaining a motivated and productive workforce. Conversely, lack of support and neglectful behaviours are associated with lower engagement, emphasising the importance of positive supervisor-employee relationships.

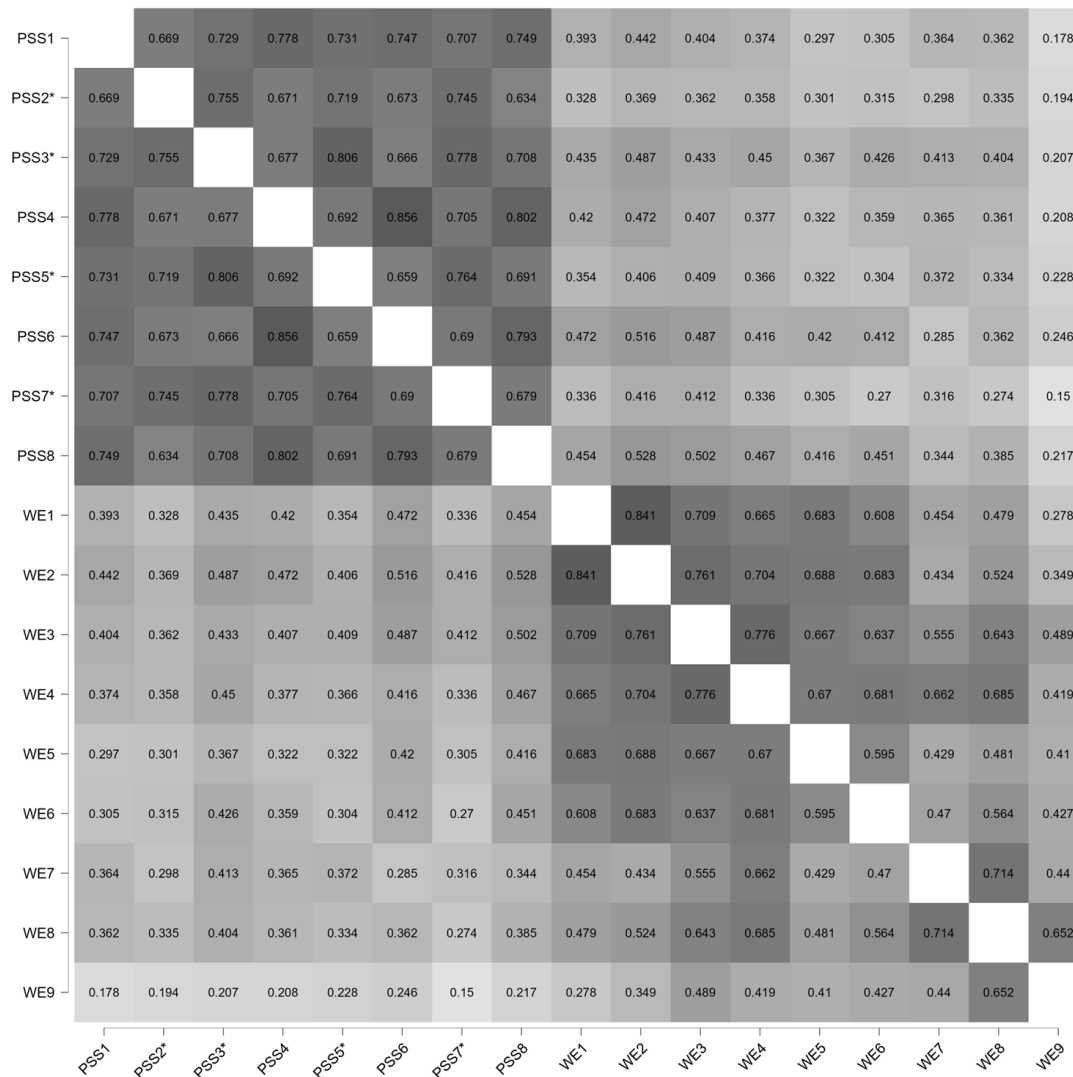


Figure 12. Heatmap of perceived supervisor support and work engagement of nurses – individual items.

DISCUSSION

The results indicate that the research propositions are confirmed. The results showed that there is a weak positive statistically significant correlation between the assertive communication style of nurse managers and the work engagement of nurses. It was determined that there is a weak but negative statistically significant correlation between passive communication style and work engagement and a moderate negative statistically significant correlation between aggressive communication style and work engagement of nurses. As a result of the above, the first three research propositions were confirmed (RP₁-RP₃). This result supports the findings of Fowler et al. [5], who confirmed that employees are more engaged if their managers possess good communication skills.

In this research, it was also found that there is a strong positive statistically significant correlation between supervisor support and the assertive communication style of the nurse manager, which confirms the fourth research proposition (RP₄). It was also determined that there is a very strong negative statistically significant correlation between perceived support and the nurse manager’s aggressive communication style, as well as a moderate negative

statistically significant correlation between perceived supervisor support and the nurse manager's passive communication style.

These results are in accordance with a study conducted by Dasgupta et al. [6], who found that the use of an assertive style in managerial communication increases perceived supervisor support, while the use of aggressive and passive styles decreases it.

This research also determined that there is a moderate positive statistically significant correlation between the perception of the nurse manager's support and the work engagement of nurses, which means that the fifth research proposition (**RP₅**) was also confirmed. This result supports the findings of other researchers who determined a positive correlation between perceived supervisor support and work engagement of nurses [7, 8].

As was said before, good communication skills are one of the most important characteristics of effective leaders [1], and therefore, nurse managers should pay special attention to their communication. Subordinates' perceptions of supervisory communication should not be neglected either, and supervisors need to reciprocate in ways that meet their employees' communication expectations [39].

As a practical implication, this research indicates that nurse managers should focus on factors which lead to improving work engagement due to numerous positive outcomes related to a nurse's work engagement. This research proves that the assertive communication style of nurse managers is one of those factors, as well as nurses' perception of supervisor support.

CONCLUSION

Nurse managers must possess a high level of communication skills and other knowledge because they need to be effective communicators and continuously transfer these knowledge and skills to their employees. In addition to sending assertive messages in the communication process, it is also important that the interlocutor knows how to receive such an assertive message while avoiding the pitfalls mentioned in the text. Therefore, it can be concluded that nurse managers have a demanding task when it comes to the education of their employees because, besides the transfer of communication skills, it also includes knowledge from other scientific branches, such as psychology and sociology. There is the question of how effective the formal education of nurse managers is when it comes to acquiring knowledge and skills that enable successful communication because, besides possessing these skills and the education of employees, they also collaborate with different subjects at different hierarchical levels, inside and outside their work units. In addition to the fact that the use of an assertive communication style is extremely important in achieving higher levels of work engagement, this research also confirmed the importance of providing support from nurse managers, which is closely related to communication. Besides scientific, this paper also has practical implications. This research was based on the examination of perception. The results show that only an assertive communication style positively correlates with supervisor support and work engagement of nurses, so nurse managers should use assertiveness in their communication with nurses.

This research has some limitations. First, it was conducted online by sharing a questionnaire on social networks, so all conclusions are related to the obtained sample of nurses. Second, the results would be more relevant if there were more nurses and nurse managers involved in the research. Finally, this study was based on perception, so there is missing information about nurse managers, such as sociodemographic characteristics or education level.

This article also represents a scientific basis for further research because, in addition to the already mentioned issue of formal education of nurse managers, the question is to what extent and how effectively continuous education of nurses is carried out in the workplace when it

comes to communication skills and the application of assertiveness. The profile of nurse managers in Croatia is unknown, so there is no data about their education level. One of the main questions that arises is whether nurse managers with higher education levels have better communication skills and, if not, why not. Another research subject could be the potential difference in communication style between an employee's perception and their perception of nurse managers. This research was conducted on nurses employed in the public health system, so it would be desirable in future research to involve nurses from private healthcare institutions to examine and compare the differences in managerial communication. Also, due to the lack of nurses in the public healthcare system, it can be examined whether the managerial communication style directly affects the nurse's intention to leave their workplace. Besides interpersonal communication, research conducted by Barišić et al. [40] showed that the use of information and communication technologies (ICT) in human resource management had an impact on organisational performance. Therefore, the impact of ICT on the relationship between managers and employees in health service should be investigated also.

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