

Factors Influencing the Willingness of Volunteer Paramedics to Re-Volunteer in a Time of War

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ABSTRACT: **Background:** Professional volunteers play a crucial role in reinforcing emergency medical services in Israel. In order to encourage volunteers to return for additional shifts, the organization should provide conditions that will assure the return, particularly at a time of self-risk such as war. In 2009 Israeli emergency medical services (Magen David Adom) were required to increase preparedness in the southern part of the country due to missile attacks on civilian populations, while continuing their routine activities, i.e., responding promptly to emergency events. In order to perform these multiple functions, MDA stations in the towns under attack were strengthened with volunteers from other regions of the country. These volunteers, trained as paramedics, served in 24–48 hour shifts.

Objectives: To identify the factors influencing the willingness of volunteers to return.

Methods: A questionnaire was used to assess the satisfaction of volunteers participating in the reinforcement with regard to their physical environment, job assignment and the actual activity they were involved in. Data were analyzed using SPSS statistical software.

Results: During the 10 days of the study, 121 volunteers reinforced southern MDA stations and 99 (81%) of them responded to the questionnaire. We found that volunteers' willingness to return to do more shifts was affected by their welcome and reception at the station, their job assignment, and their training and preparation for performing the necessary tasks. The sleeping conditions and the number of events they participated in were also contributing factors.

Conclusions: Factors that contribute to the willingness of volunteers to re-volunteer should be taken into account by organizations that rely on them.

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The phenomenon of volunteering with the mission of saving lives during war is not new. For over a century, many volunteer organizations have been carrying out medical aid activities in populations affected by the events of war [1]. The International Red Cross sends volunteer aid delegations to areas affected by war as part of the principle of prevention and aid to the civilian population, and its volunteers are committed to humanitarian and reciprocity values, treating all of the injured regardless as to which side they belong [2]. These volunteers embark on lengthy missions in distant areas. Volunteers also help in acute events, a classic example being the 9/11 attack on the Twin Towers.

The question of motivation to act in general, and to volunteer in particular, has been discussed in many studies. According to Herzberg's theory of motivation [3] there are two types of factors that affect an individual's motivation to act – hygienic and motivational. The hygienic factors enable the activity to occur; for example, safety, transportation, availability, etc. The role of the motivation factors, on the other hand, is to elevate the activity to an ideal, such as commitment and excellence. Research on the motivation of volunteers and the reason for their persistence found that the volunteer will endure if the volunteering matches his or her interests [4–7]. Placing the volunteer in an activity that matches his needs and wishes, while carefully and professionally matching between the volunteer and the recipient of the service, will contribute to the volunteer's persistence [8–12].

Although the volunteer's purpose is not the receiving of material reward, a key factor relating to persistence in volunteering is the price that the volunteer is required to pay for such activities. As this price increases, the chance that the volunteer might not return also increases. The subjective feeling of the volunteer that he is doing an important job predicts satisfaction and persistence [8]. Dreham and York [8] also found a correlation between the amount of effort that the volunteer invests and the level of satisfaction.

Another factor is adequate training for the job, which increases the volunteer's self-confidence that he is prepared for the job [8–10,13,14]. It is important to train the volunteers

MDA = Magen David Adom

in the place where they will serve, and introducing the organization and people with whom the volunteer will come in contact. Smith [2] found a correlation between the amount of training given to volunteers and both their level of satisfaction and the organization's ability to attract potential volunteers. The question of the persistence of volunteers who serve in a one-time event or one long mission is inherently different from the persistence of volunteers who serve multiple times for repeated activities. In one-time events the volunteer will endure the difficulties knowing that at the end of the event his mission is complete and he will return to his safe routine. Continuous events that require repeated volunteering entail making the decision to volunteer again and again, thus the less determined volunteers may stop coming at some point.

In January 2009, hundreds of missiles were launched at small towns in southern Israel. During that month 1081 casualties were treated by Magen David Adom, the Israeli emergency services organization. The inhabitants of the communities under attack spent long hours in shelters. Congregating was prohibited and many places of work and all schools in the region had to close by order of the homeland security office. Concurrently, in the center and north of the country, workplaces stayed open and school activities went on as usual.

MDA supplemented the medical teams that worked in the south with 561 volunteer paramedics from the center and north of the country. These volunteers worked 24–28 hour shifts, after which they returned home and resumed their daily activities. Some of these volunteers returned to the south to serve additional shifts. The question of the possibility of volunteers returning for an additional shift is essential for the existence of a preparedness and reinforcement system of a volunteer-based first aid organization. For planning future response, it is essential to identify the factors affecting the volunteers' willingness to return for an additional shift while sacrificing their free time, their work, and their families. The purpose of this study was to explore the effect of different factors on the volunteer's willingness to return for another shift.

SUBJECTS AND METHODS

A 14-question telephone survey was conducted over 10 days, 31 December 2008 to 10 January 2009. The questions dealt with the activities at the MDA reinforcement station, the physical conditions at the station, the welcome they received, and preparation for the job. Satisfaction and willingness to return for another shift as a product of these variables was assessed. The survey was administered to the volunteers the day after their shift. The answers were ranked on a Likert scale from 1 (lowest) to 5 (highest). In addition, all MDA activity records were searched in order to segregate the events into routine events and emergencies resulting from missile attacks. Recording the

events was conducted for each station separately, as was the number of events during the reinforcement.

The responses to the questionnaires were entered into the SPSS program and statistical analyses were performed. The analysis methods included ANOVA to study the influence of variables on the willingness to return for another shift, Pearson's test to assess the correlation between continuous variables, and chi-square test to check the association between the independent variables and the willingness to return for another shift at the various MDA stations.

RESULTS

In total, the participant pool included 561 volunteers who reinforced the MDA staff in the southern part of the country from 28 December 2008 to 17 January 2009. A sample of volunteers was drawn during 10 days of this period, 31 December to 10 January. During the study period, the stations in the southern region were reinforced by 121 volunteers, of whom 99 (81%) responded to the questionnaire. Two of the respondents responded only partially and were thus excluded from the study.

The living conditions at the reinforcement station were assessed using questions on sleeping conditions, food supplied, appropriate clothing (the study took place in winter), and protective clothing. Variables were ordinal with five levels. Pearson's test showed a significant positive correlation between the sleeping conditions and willingness to return for another shift ($r = 0.325$, $P < 0.001$). That is, as the sleeping conditions improved, the willingness to return increased. A significant positive correlation was also found between satisfaction with meals and the willingness to return ($r = 0.358$, $P < 0.001$). However, no correlation was found between the presence of appropriate and protective clothing and the willingness to return.

The relationship between the volunteer's expectations and willingness to return for another shift was tested using: a) questions on whether the activities carried out fulfill the volunteer's expectations, and b) ranking of satisfaction from the shift. Beyond these two variables measured on an ordinal scale with five levels, the amount of activity carried out at the station during the reinforcement day according to the MDA documentation was added to the analysis. Pearson's test was performed to check the correlation between the congruity of the volunteer's expectations and the actual work and was significant ($r = 0.297$, $P < 0.001$); i.e., as the congruity between the expectations and the work increased, the willingness to return also increased. The correlation between satisfaction and the willingness to return was also significant with Pearson's test ($r = 0.543$, $P < 0.001$); i.e., as the volunteer's satisfaction increased, the willingness to return also increased.

While enquiring about the welcome they received at the station and the specific activity to which they were assigned,

the amount of activity the volunteers were involved in was estimated, For this assessment an ordinal scale with five levels was used and Pearson's test was conducted. The Pearson test showed a positive correlation ($r = 0.411, P < 0.000$). In order to examine the correlation between the amount of activity at the reinforcement station and the willingness to return for another shift, all the events that the station responded to were included and a significant positive correlation was found ($r = 0.341, P < 0.001$); i.e., as the number of calls to the reinforcement station increased, the willingness to return also increased.

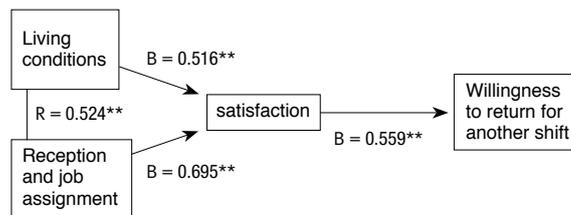
The volunteers' welcome and training for activities at the reinforcement station were examined through questions regarding the attitude and friendliness on their reception, effectiveness of the training, and a tour of the area. The three variables were in an ordinal scale with five levels and were examined using the Pearson test, which showed a significant positive correlation to the willingness to return (reception at the station: $r = 0.262, P = 0.009$, training level: $r = 0.297, P = 0.002$, tour of the area: $r = 0.245, P = 0.004$).

The volunteers' self-confidence was tested with a question about fear and anxiety. Pearson's test to check the correlation between anxiety and willingness to return did not yield a significant correlation. In contrast, examining the correlation between stress and anxiety on the one hand, and the number of emergency events treated by the station during the day that the volunteer was at the station on the other, revealed a significant negative correlation ($r = -0.310, P = 0.006$). Similarly, in a Pearson test of the number of casualties of missile attacks, a significant negative correlation was found ($r = -0.306, P = 0.006$), i.e., as the number of missiles increased, and the number of casualties of these missiles treated at the station increased, the volunteers' fear and anxiety decreased.

In order to examine whether the willingness to return for another shift was related to the specific reinforcement station, a chi-square test was performed, which showed a significant difference between the different stations.

A survey of MDA's documentation at different stations revealed that there were 356 calls to the Ashdod station, compared to 168 in Ashkelon, 124 in Sderot and 141 in Beer Sheva. The willingness to return for another shift in

Figure 1. Graphic representation of the correlation between living conditions, reception, and job assignment, and the willingness of paramedic volunteers in Israel to return for another shift. (** $P < 0.001$)



Beer Sheva was significantly lower (mean score of 3.5). To investigate the reason for this difference, a comparison was conducted between the volunteers' willingness to return to each station and the number of events the volunteers actively participated in at each station [Table 1]. The average willingness to return was in an ordinal scale with five levels.

It was found that the significant number was not the number of calls to the station, but the number of events in which the volunteers participated. As shown in Table 1, as the average number of events in which the volunteers participated increased, their willingness to return for another shift also increased.

Regression analyses were carried out to examine the correlation between living conditions, reception and job assignment and the willingness to return for another shift, while mediated by satisfaction. Figure 1 shows the significant correlations. It was found that satisfaction mediates between living conditions, reception and job assignment, and the willingness to return.

DISCUSSION

Volunteering during a time of war is often considered an act of heroic self-sacrifice. The increased value and respect given to a volunteer risking his or her life for the benefit of others and leaving work and family for an indefinite period serves as a motivating factor. Volunteers' activities are crucial for MDA, without which it would be difficult to provide the services necessary for survival in such a difficult time. The organization must recognize the interests and needs of the volunteers in order to improve their job performance and lead to their willingness to return in the future.

Herzberg's motivation theory [3] assumes that the hygienic factors – such as clothing, food, sleeping conditions and protective gear – will enable the volunteer to act but will not motivate him or her beyond that. Based on this theory, we would expect that the volunteers would arrive for a single shift, but without additional motivational factors would not choose to return for additional shifts. In the present study, these factors not only contributed to the initial act but also significantly influenced

Table 1. The willingness to return for an additional shift by active participation in events

Station	Average score			Willingness to return for another shift (mean, SD)
	Participation per volunteer in routine events	Participation per volunteer in missile attack events	Participation per volunteer in routine and missile attacks combined	
Beer Sheva	0.125	0.375	0.5	3.5 (1.82)
Ashdod	0.285	0.928	1.213	4.64 (1.08)
Ashkelon	0.862	1.21	2.072	4.7 (0.75)
Sderot	3.3	0.83	4.13	5 (0)

their willingness to return for additional shifts – shifts in which they risked their own lives while working under missile attacks to save the lives of others. Volunteers were provided with basic food and slept in military-type beds, sometimes only a mattress. These basic living conditions might not serve as motivational factors, but without them the volunteers would not come at all.

Self-confidence and anxiety are hygienic factors that might decrease volunteers' effectiveness in action and their willingness to return. In the present study, no significant correlation was found between the anxiety of the volunteers working in a war region, treating casualties under missile attacks, and their willingness to return for another shift. Furthermore, it was found that as the number of missile attacks in the station region increased, and as the number of casualties increased, the stress and anxiety among the volunteers significantly decreased. Perhaps the explanation for this lies in the volunteers' ability to respond and act. These findings agree with those of a study carried out by Nirel et al. [12], which identified the factors that attract paramedics to the profession. These researchers [12] observed that paramedics are attracted to the sensation of rescuing and life saving beyond the professional interest, and that the need for diversity and unexpected challenges also plays a role in their career selection. The study [12] also explored pressures at work, but these were not considered related to having to cope with responsibility, the difficulty of working under uncertain conditions, and the sudden transition from a calm situation to emergencies.

Our findings showed that the feeling of accomplishment reduced personal anxiety. In contrast, volunteers who came to these dangerous regions and did not actively participate in the events felt that they had risked their lives in vain.

The allocation of practical assignments to volunteers adds to the feeling that they are making a contribution and that their actions are meaningful. As found in the studies of York [14], Dreham and York [8] and Wapor [9], volunteers' persistence and willingness to return for additional shifts is significantly correlated to the type of job they are assigned. The organization is responsible for the assigning of jobs. The volunteers wish to contribute, yet they understand that the organization has no control over the amount of activity that will be on their shifts. The organization cannot manipulate the number of missile attacks or the harm caused, just as it cannot influence the number of acute myocardial infarctions or resuscitations on a certain routine day. The assignment to jobs is therefore the volunteers' only expectation from the organization. Beyond that, it is the number of actual events that influenced the willingness to return. It was found that in cases where volunteers were not assigned to active participation in events (on average, 0.5 calls per volunteer per shift were accepted), their willingness to return for another shift

decreased to the minimal level of only 70%. On the other hand, when they actively participated in several events they were willing to return for another shift 100% of the time.

These differences account for the variability between the different stations. It was found that at stations where volunteers were assigned active jobs, both in routine and emergency events, the willingness to return increased accordingly.

In many studies, preparedness and training for performing the job were found to be factors contributing to persistence [8,9,15]. Recent studies revealed that the additive demand-control-support model predicts job satisfaction, commitment to the employing organization and psychological distress of workers [16]. The present study supports this finding but adds another facet. Despite the fact that volunteers had previous professional training and experience in their home station, when they arrived at the station in the war region, additional professional training was needed. It was found that for the volunteers, their reception at the station, the professional training they received, and a tour of the area were very important. It is possible that this professional guidance is significantly correlated to the willingness to return for another shift since it contributes to the volunteers' confidence in their ability to effectively carry out the job at hand.

CONCLUSION

The factors that influence the volunteer's willingness to return for another reinforcement shift can be divided into those that can be controlled by the organization and those that can not. While the organization must take into account that days with few events will lead to a significant decrease in the volunteers' willingness to return for another shift, it should focus mainly on the steps it can take to increase re-volunteering.

Hygienic factors (benefits such as food, clothing, etc.) and motivational factors (training, familiarity with the area, job assignment) all contribute to the willingness to return and should be taken into account by organizations that rely on their volunteers.

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