Validation of the Cadre’s Satisfaction of the Posyandu Lansia Questionnaire

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Abstract
Integrated health post for elderly/posyandu lansia is one of the community empowerment actions in improving the quality of life of the elderly. The role of cadres in managing the posyandu lansia is significant and is influenced by motivational factors that will cause satisfaction or dissatisfaction at work. A qualitative study in Bandung succeeded in exploring the components of satisfaction based on Herzberg’s theory. Until now, no questionnaires have been developed to measure the satisfaction of posyandu lansia cadres. This study aims to set up and validate the satisfaction questionnaire for posyandu lansia cadres. A cross-sectional study was conducted on 200 cadres taken by multistage sampling in Bandung, West Java, Indonesia, from October to November 2020. Fifty-four items consisting of 19 motivator factor items and 35 hygiene factor items were tested for validity using the Pearson product-moment correlation coefficient, exploratory factor analysis, and communalities test. In addition, a reliability test was carried out using Cronbach’s alpha. The results showed that 16 of 54 items did not meet the requirements, consisting of 5 items from motivator factors and 11 from hygiene factors. The dimensions of the motivator factors changed from 6 dimensions to 4 dimensions, and the dimensions of hygiene factors changed from 8 dimensions to 9 dimensions. It concluded that a new questionnaire on the satisfaction of posyandu lansia cadres has been compiled and can be used to measure the level of satisfaction of cadres. However, further studies need to be carried out involving various regions in Indonesia.

Keywords: Herzberg’s theory, posyandu lansia, satisfaction

Introduction
Integrated health post for the elderly (posyandu lansia) is community support to enhance the quality of life of the elderly.1 It is developed by the local community and run by community health workers/cadres.1 Cadre is selected from the community where the elderly live. They know the elderly well, the community cultures, and the languages used.2 They have been trained some tasks and performed them as unpaid volunteers.2 The roles of cadres include health promotion, health education, some basic health services, and the collection of health data.3,4 They involve in activities both within the community and linked to the public health center/puskesmas they are connected.2–4 In Indonesia, there are 100,740 posyandu lansia distributed in the provinces, mainly in West Java, Central Java, East Java, and South Sumatera.5,6

The cadre’s satisfaction places an essential factor in the continuity of the posyandu lansia.7 Herzberg8 mentioned that motivator and hygiene factors are contributed to work satisfaction.9 Motivator factors are factors that come from the person his/herself (intrinsic factors) that produce work satisfaction and consist of 5 dimensions: 1) achievement, 2) recognition, 3) the work itself, 4) possibility for growth, and 5) responsibilities. On the other hand, hygiene factors are factors that come from the work environment (extrinsic factors) that reduce dissatisfaction and consist of 7 dimensions: 1) policies and administration, 2) supervision, 3) interpersonal relationships, 4) incentives, 5) personal life, 6) working conditions, and 7) status.8,9 A qualitative study conducted in Bandung city, Indonesia revealed two new dimensions from each Herzberg’s two-factor theory. Practicing religious teachings was a new dimension of the motivator factors found in this study.10 The respondents were Moslems and stated that they worked sincerely (ikhlas), believing that becoming a cadre was worship (ibadah), and made this work as a saving for the afterlife (akhirah).10 Social relations emerged as a new dimension of hygiene factors. The
respondents stated that being cadres, they had more opportunities to meet their community, made new friends, and were very happy if they could help others, so that one day if they needed help, the community could help them.10

Policy generated from evidence needs to be carried out to improve the posyandu lansia. One of the pieces of evidence that should be collected is the measurement of the cadre’s work satisfaction. In doing so, a questionnaire should be developed and validated. The study’s objectives were to develop and validate the cadre’s work satisfaction at the posyandu lansia.

Methods

A cross-sectional study was conducted in Bandung city, Indonesia, from October to December 2020. Bandung city is the capital of West Java province and is divided into six administrative regions and has 80 puskesmas. Puskesmas is one of the primary health facilities responsible for the health of the community they serve, among others, the health of the elderly. Moreover, puskesmas have the responsibility to enhance the skills of the cadres to perform some tasks they are expected to do. From each region, one puskesmas was selected by simple random sampling. The researchers collected data of the cadres from the puskesmas chosen that met the inclusion and exclusion criteria. The inclusion criteria were: (1) For more than one year, they were cadres and are still active as cadres; (2) They could operate a mobile phone; (3) They had Whatapps web; (4) Willing to participate in this study. Moreover, the exclusion criteria were cadres who did not fill out the questionnaire in Google Form. After the number of cadres who met the requirements was gathered, a proportionate sampling was carried out from each 200 participants.11

The six dimensions of the motivator factor were: (1) Achievement: the success in cadre work; (2) Recognition: obtaining an appreciation for the accomplishment of the work as a cadre; (3) The work itself: an activity or a task that gives a positive or negative feeling; (4) Possibility for growth: opportunities to develop themselves and improve knowledge/skills/expertise; (6) Responsibilities: the obligation to carry out the work.12

Moreover, hygiene factors consisted of eight dimensions and 26 categories.13 The eight dimensions of hygiene factors were: (1) Policies and administration work from the puskesmas and local government: policies or rules and administrative system given by puskesmas and local government to cadres in providing services in the posyandu lansia; (2) Supervision: supervising and guiding the cadre in providing service in the posyandu lansia; (3) Interpersonal relationships: the communication bond between cadres and the supervisors from puskesmas and the local government; (4) Incentives: wages or salaries given to the cadre; (5) Personal life: the condition of the private life of cadres affecting their work as cadres; (6) Working conditions: an environment affecting cadres in providing services in the posyandu lansia; (7) Status: cadre position in the community; (8) Social relations: help the community, socialize with the community, and make new friends.

The researchers set up a questionnaire from the theoretical construct and established that 54 items consisted of 19 items that contributed to motivator factors and 35 contributed to hygiene factors. Each item was scored with a Likert scale from 1 to 4 (strongly disagree, disagree, agree, and strongly agree). After establishing the questionnaire, a pre-testing was carried out on 23 cadres as the target population of this study. This pre-testing aimed to identify the clarity of the language used, the relevance to the theoretical construct revealed without changing the initial meaning of the concepts, and the possible suggestions to improve the question phrase. The researchers decided to perform the pre-testing twice. The first pre-testing was conducted on 13 cadres who came to the meeting location and met the inclusion and exclusion criteria. One of the researchers explained the aim of the study and the questionnaire. The cadres read each item carefully and gave inputs. From this first pre-testing, only two items from the motivator factors should be revised.

Those were “I can socialize with my fellow cadres and the community so that it can prevent my aging process (Saya dapat bersosialisasi dengan sesama kader dan masyarakat sehingga dapat mencegah proses penuaan)” to “I can socialize with my fellow cadres and the community so that it can delay my aging process (Saya dapat bersosialisasi dengan sesama kader dan masyarakat sehingga dapat memperlambat proses penuaan)"
proses penuaan)”
and
“I became smarter compare with other community members (Saya menjadi lebih pintar dibanding dengan anggota masyarakat lainnya)”
to
“I know better compare with other community members (Saya menjadi lebih tahu dibanding dengan anggota masyarakat lainnya).”

The second pre-testing was held with ten cadres whose location and members differed from the first group. The second pre-testing was expected to reassure that the items were understood and could be answered easily. The cadres gave no inputs anymore since they understood the items very well. The proposed questionnaire was discussed among the researchers to obtain the final questionnaire. Due to the COVID-19 pandemic, the questionnaire was designed in a Google Form and linked via Whatsapp.

The reliability and validity testing was conducted on 200 cadres from 6 puskesmas in Bandung city. Every puskesmas had a different number of total cadres. The number of the cadres selected from each puskesmas was calculated proportionately. Every cadre who met the inclusion criteria was selected until the required sample size was achieved. Demographic data consisted of age, religion, education level, marital status, occupation, cadre status, and years being a cadre. The age category was divided into six categories: 20–30 years, 31–40 years, 41–50 years, 51–60 years, 61–70 years, and 71–80 years. Religion was divided into two categories: Moslem and non-Moslem. Education level was divided into three categories: junior high school and below, high school or equivalent, and higher education. Marital status was divided into four categories: unmarried, married, widow divorced, and widow partner had died. Occupation is divided into two categories, namely no and yes. Cadre status is divided into two categories: only as posyandu lansia cadres and as posyandu lansia and children cadres; and years being a cadre are divided into three categories: 1–5 years, 6–10 years, and >10 years. The collected data were processed and tested using SPSS version 22.0. Demographic data were presented in percentages. Pearson’s correlation was employed to analyze the construct validity. This coefficient is a number between −1 and 1. The r values are distributed as follows: r=0.0–0.29, negligible correlation; r=0.3–0.49, low correlation; r=0.5–0.69, moderate correlation; r =0.7–0.89, high correlation; r=0.9–1.0, very high correlation. To test the validity, the results were evaluated using the critical value table of the Pearson product-moment correlation coefficient. We used df 198 (200 samples minus 2), r count>0.138), p value<0.05. The Kaiser-Meyer-Olkin (KMO) index for sampling adequacy and Bartlett’s test for sphericity were used to verify the suitability of the application of exploratory factor analysis (EFA) for the collected data. The recommended value of the KMO index is equal to or above 0.6, and Bartlett’s test of sphericity is significant at α<0.05.14 With exploratory factor analysis was conducted. It adopted the varimax rotation method in a correlation matrix composed of 19 items of motivator factors and 35 items of hygiene factors (a total of 54 items). The commonalities test was conducted to test the unidimensionality of the items. Commonalities define that the items are well explained. The value should equal to or above 0.3–0.5. However, according to the previous study, the dimensions had already been set up for six dimensions of motivator and eight dimensions of hygiene factors. The number of dimensions was confirmed by assessing the scree plot, employing question retention through the Kaiser-Guttman criterion of the components with eigenvalues higher than 1. The reliability test used in this study was Cronbach’s alpha, which Lee Cronbach developed in 1951. It provides a measure that describes the extent to which all the items in a test measure the same concept or construct (internal consistency) or stable and consistent result.5,16 It also describes the interrelatedness of the items within the test. No absolute rules exist for internal consistencies. Some experts suggest cut-off points for reliability are unacceptable: α<0.5, poor: 0.5≤α<0.6, questionable: 0.6≤α<0.7, acceptable: 0.7≤α<0.8, good: 0.8≤α<0.9, and excellent: α≥0.9.17 However, for a pilot study, it is suggested that reliability should be equal to or above 0.60.16

This study was approved by the Health Research Ethics Committee, Universitas Padjadjaran, Bandung, Indonesia, number: 776/UN6.KEP/EC/2020.

Results
The cadres comprised 200 subjects, and their backgrounds are described in Table 1. All cadres
were female and of their productive age, although a small percentage of the elderly became cadres. Most of the cadres had a high school education, and they were housewives. This study discovered that they were not only posyandu lansia cadres but also posyandu for children cadres.

The Pearson correlation test was conducted on all items. This study discovered that 53 of 54 items (98.15%) had \( r > r_{table} \). Moreover, 94.4% had equal to or above moderate correlation. Three items had a correlation coefficient below 0.5. Those were M6, H2, and H5 (Table 2).

The KMO index for motivator factors was 0.843, and Bartlett’s test was significant at \( \alpha<0.001 \) (approx. chi-square=3465.747). Based on the KMO index and Bartlett’s test, the unidimensionality test of the questionnaire was conducted through commonality, employing the principal component method. Table 3 exhibits the items and communality value for each item.

Items M6, M10, M11, M14, and H2, presented communality lower than 0.5. On the other hand, the others revealed a value higher than 0.5. After the communality analysis, the component matrix was verified. Employing the principal component analysis as the extraction method and the varimax rotation method with Kaiser normalization, dimensions of the motivator factors went from 6 dimensions initially to 4 dimensions, and dimensions of the hygiene factors went from 8 dimensions to 9 dimensions. Moreover, the items of motivators elements have moderate to high correlation, but some themes of hygiene factors had low correlation (H2, H6, H11, H12, H21, H22, H23, H26, H27, and H34). Table 4 displays this analysis.

The internal consistency (Cronbach’s alpha) ranged from -0.368 to 0.84 for the dimensions of the motivator factors, with the overall score being 0.841. Recognition, the work itself, and personal growth were the dimensions that did not meet the recommended 0.60 or higher. After M13 was deleted, the internal consistency of personal growth increased from 0.514 to 0.663. The internal consistency (Cronbach’s alpha) ranged from -0.195 to 0.884 for the dimensions of the hygiene factors, with the overall score being 0.899. Policies and administration, incentives, and work conditions were the dimensions that did not meet the recommended of 0.60 or higher. After H2 was deleted, the internal consistency of policies and administration dimension increased from 0.434 to 0.609 (Table 5). After testing its validity and reliability, some dimensions and items were deleted from the questionnaire. Table 6 displays the final dimensions and items. M6, M10, M11, M13, and M14 were deleted from the questionnaire. M6 did not meet the recommended value of the coefficient correlation and communalities, and if deleted, the Cronbach’s alpha of the recognition dimension increased from 0.306 to 0.402. M10, M11, and M14 did not meet the recommended value of communalities (equal to or higher than 0.5). Moreover, if M13 was deleted, the Cronbach’s alpha of the personal growth dimension increased from 0.514 to 0.663.

### Table 1 Characteristics of the Participants

| Characteristics                        | n=200 | %    |
|----------------------------------------|-------|------|
| Age group (years)                      |       |      |
| 20–30                                  | 5      | 2.5  |
| 31–40                                  | 23     | 11.5 |
| 41–50                                  | 76     | 38.0 |
| 51–60                                  | 64     | 32.0 |
| 61–70                                  | 27     | 13.5 |
| 71–80                                  | 5      | 2.5  |
| Religion                               |       |      |
| Moslem                                 | 199    | 99.5 |
| Non-moslem                             | 1      | 0.5  |
| Education                              |       |      |
| Junior high school and below           | 32     | 16   |
| High school                            | 120    | 60   |
| Higher education                       | 48     | 24   |
| Marital status                         |       |      |
| Single                                 | 1      | 0.5  |
| Married                                | 166    | 83.0 |
| Widow (divorced)                       | 5      | 2.5  |
| Widow (partner died)                   | 28     | 14.0 |
| Occupation                             |       |      |
| No                                     | 177    | 88.5 |
| Yes                                    | 23     | 11.5 |
| Cadre status                           |       |      |
| Only as posyandu lansia cadre          | 58     | 29   |
| As posyandu lansia and children cadre  | 142    | 71   |
| Work as a cadre (years)                |       |      |
| 1–5                                    | 101    | 50.5 |
| 6–10                                   | 58     | 29.0 |
| >10                                    | 41     | 20.5 |

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Table 2 Pearson Correlation Coefficient

| Items                                                                 | r     | p       |
|-----------------------------------------------------------------------|-------|---------|
| **A Motivator factors**                                               |       |         |
| 1. Achievement                                                        |       |         |
| M1 My posyandu lansia becomes a role model for other posyandu lansia   | 0.822 | <0.001 |
| M2 There are so many elders who come to my posyandu lansia             | 0.707 | <0.001 |
| M3 The elderly become healthy                                          | 0.693 | <0.001 |
| M4 My posyandu lansia joins a competition                              | 0.751 | <0.001 |
| 2. Recognition                                                        |       |         |
| M5 Thank you note from the community makes me feel rewarded           | 0.729 | <0.001 |
| M6 I didn’t expect any awards                                         | 0.462 | <0.001 |
| M7 I feel more motivated when I get an award in the form of goods such | 0.726 | <0.001 |
| M8 I am happy and proud to be able to help the community              | 0.598 | <0.001 |
| M9 Although being a cadre is a tiring job because there are many activities | 0.698 | <0.001 |
| M10 I can apply the knowledge and skills I have                       | 0.603 | <0.001 |
| M11 I can socialize with fellow cadres and the community so it delays | 0.710 | <0.001 |
| M12 I can improve my knowledge and skills                             | 0.662 | <0.001 |
| M13 I know better compared to other members of the community          | 0.638 | <0.001 |
| 3. Possibility for growth                                             |       |         |
| M15 I want to help people to be healthy                               | 0.810 | <0.001 |
| M16 A cadre has to carry out activities at the posyandu lansia        | 0.746 | <0.001 |
| M17 I carry out activities at posyandu lansia sincerely               | 0.877 | <0.001 |
| M18 The job of the cadre is to worship                                | 0.910 | <0.001 |
| M19 Helping the community is a saving for the life after              | 0.825 | <0.001 |
| **B Hygiene factors**                                                 |       |         |
| 1. Policies and administration work                                   |       |         |
| H1 Although the tasks and reports that I must do are a burden for me  | 0.592 | <0.001 |
| H2 Among cadres always share works so that the works and the reports | 0.304 | <0.001 |
| 2. Supervision                                                        |       |         |
| H5 Although puskemas staff rarely attend posyandu lansia               | 0.123 | 0.082  |
| H6 Puskemas officers guide the posyandu lansia                        | 0.598 | <0.001 |
| H7 I can attend seminars or meetings to gain insight and exchange     | 0.768 | <0.001 |
| H8 As a cadre, I have the opportunity to take part in various training| 0.668 | <0.001 |
| H9 The head of the hamlet guides the posyandu lansia                  | 0.625 | <0.001 |
| H10 Village officers guide the posyandu lansia                        | 0.745 | <0.001 |
| 3. Interpersonal relation                                             |       |         |
| H11 The relationship with the puskemas staff is very close and good   | 0.745 | <0.001 |
| H12 Good support from the hamlet and village officers                 | 0.664 | <0.001 |
| 4. Incentives                                                         |       |         |
| H13 I and other cadres always help each other                         | 0.768 | <0.001 |
| 5. Working conditions                                                 |       |         |
| H20 My family supports me to become a cadre                           | 0.666 | <0.001 |
| H21 I can fill my daily activities as a cadre so I don’t get bored at | 0.682 | <0.001 |
| 7. Status                                                             |       |         |
| H22 My health conditions are one of the factors that keep me as a cadre| 0.722 | <0.001 |
| H23 I have a lot of free time to work as a cadre                      | 0.674 | <0.001 |
| H24 Financial need is not my reason to stop being a cadre             | 0.667 | <0.001 |
| H25 Taking care of my family is not an excuse for me to stop being a  | 0.688 | <0.001 |
| H26 Age is a consideration for me to remain as a cadre                | 0.520 | <0.001 |
| 8. Social relation                                                    |       |         |
| H27 Posyandu lansia schedule does not burden me                      | 0.715 | <0.001 |
| H28 The facilities at posyandu lansia are adequate for the success of my work as posyandu lansia cadre | 0.881 | <0.001 |
| H29 I am more trusted by the community                               | 0.805 | <0.001 |
| H30 I became more known by the community                             | 0.867 | <0.001 |
| H31 I became a community leader in my environment                    | 0.824 | <0.001 |
| H32 I can help the community, for example when someone is sick I can | 0.694 | <0.001 |
| H33 I can chat, laugh together and share feelings both among cadres and the elderly | 0.798 | <0.001 |
| H34 I get to know a lot of people                                    | 0.820 | <0.001 |
| H35 I can make new friends                                           | 0.822 | <0.001 |

Note: M1–M19: code number of motivator factors; H1–35: code number of hygiene factors; r: correlation coefficient

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Table 3 Communalities of 54 Items

| Items of Motivators Factors | Communalities | Items of Hygiene Factors | Communalities |
|-----------------------------|---------------|--------------------------|---------------|
| M1                          | 0.649         | H1                       | 0.587         |
| M2                          | 0.714         | H2                       | **0.453**     |
| M3                          | 0.596         | H3                       | 0.801         |
| M4                          | 0.502         | H4                       | 0.636         |
| M5                          | 0.517         | H5                       | 0.578         |
| M6                          | **0.441**     | H6                       | 0.610         |
| M7                          | 0.692         | H7                       | 0.768         |
| M8                          | 0.543         | H8                       | 0.808         |
| M9                          | 0.617         | H9                       | 0.653         |
| M10                         | **0.372**     | H10                      | 0.682         |
| M11                         | **0.456**     | H11                      | 0.636         |
| M12                         | 0.552         | H12                      | 0.728         |
| M13                         | 0.536         | H13                      | 0.777         |
| M14                         | **0.421**     | H14                      | 0.762         |
| M15                         | 0.613         | H15                      | 0.796         |
| M16                         | 0.659         | H16                      | 0.823         |
| M17                         | 0.704         | H17                      | 0.643         |
| M18                         | 0.642         | H18                      | 0.543         |
| M19                         | 0.709         | H19                      | 0.685         |
|                             |               | H20                      | 0.613         |
|                             |               | H21                      | 0.620         |
|                             |               | H22                      | 0.627         |
|                             |               | H23                      | 0.563         |
|                             |               | H24                      | 0.685         |
|                             |               | H25                      | 0.709         |
|                             |               | H26                      | 0.532         |
|                             |               | H27                      | 0.573         |
|                             |               | H28                      | 0.534         |
|                             |               | H29                      | 0.713         |
|                             |               | H30                      | 0.736         |
|                             |               | H31                      | 0.699         |
|                             |               | H32                      | 0.655         |
|                             |               | H33                      | 0.680         |
|                             |               | H34                      | 0.716         |
|                             |               | H35                      | 0.764         |

Hygiene factors had 11 items that were considered to be deleted, which are H2, H5, H6, H11, H12, H21, H22, H23, H26, H27, and H34. H2 did not meet the recommended value of the coefficient correlation and communalities, and if deleted, increased the Cronbach’s alpha of the policies and administration dimension from 0.434 to 0.609. H5 did not meet the recommended coefficient correlation value and, if deleted, can increase the Cronbach’s alpha of the supervision dimension from 0.617 to 0.759. The item of H6, H11, H12, H21, H22, H23, H26, H27, and H34 did not meet the recommended value of the coefficient correlation.

Based on the results, the motivators factors consisted of four dimensions: achievement, recognition, the work itself, and responsibilities, with 14 items. Moreover, hygiene factors consisted of 9 dimensions: policies, administration work, supervision, interpersonal relation, incentives, personal life, working conditions, status, and social relation with 24 items.

**Discussion**

Millions of community health workers/cadres...
worldwide help people and communities become healthy and improve their quality of life. The cadres are an important force for preventing diseases, promoting healthy behaviors, and extending the reach of health systems, especially in hard-to-reach areas, narrowing the health equity gap. Most of the cadres work as unpaid volunteers. According to other studies, volunteerism is defined as “a non-spontaneous aid activity, in which the individual providing the assistants is active in finding opportunities to help others, committing to sacrifice time, effort and material within a certain timeframe.” Being a volunteer has a positive advantage. Volunteer activities can improve volunteers’ physical and mental health. However, not every cadre has the same motivation when deciding to become a volunteer. Motivation to work has an essential role in contributing to satisfaction and dissatisfaction, which lead to retention.

This study had succeeded in developing and validating the questionnaire as a new, self-administered measure of the cadre’s satisfaction who volunteers at the posyandu lansia. Validity and reliability testing are the two most important tests to evaluate a measurement instrument or questionnaire. Validity represents what an instrument measures and the truthfulness of findings or “measure what is intended to be measured,” whereas reliability means the stability and consistency of an instrument.

This study excluded 16 of the 54 initial items

### Table 4 Principal Component Analysis of the Motivator and Hygiene Factors

| Dimension of Motivators Factors | Dimension of Hygiene Factors |
|---------------------------------|-----------------------------|
| Items                           | Items                       |
| M1 0.751                        | H1 0.462                    |
| M2 0.820                        | H2                           |
| M3 0.562                        | H3 0.775                    |
| M4 0.671                        | H4 0.673                    |
| M5 0.677                        | H5 0.697                    |
| M6 0.518                        | H6                           |
| M7 0.569                        | H7 0.495                    |
| M8 0.586                        | H8 0.695                    |
| M9 0.569                        | H9 0.838                    |
| M10 0.614                       | H10                          |
| M11 0.614                       | H11 0.486                   |
| M12 0.717                       | H12 0.480                   |
| M13 0.605                       | H13 0.731                   |
| M14 0.562                       | H14 0.800                   |
| M15 0.754                       | H15 0.765                   |
| M16 0.588                       | H16 0.855                   |
| M17 0.836                       | H17 0.707                   |
| M18 0.801                       | H18 0.615                   |
| M19 0.721                       | H19                          |
| M20 0.500                       | H20                          |
| M21 0.484                       | H21 0.412                   |
| M22 0.471                       | H22 0.471                   |
| M23 0.708                       | H23 0.749                   |
| M24 0.615                       | H24 0.758                   |
| M25 0.452                       | H25 0.761                   |
| M26 0.452                       | H26 0.615                   |
| M27 0.494                       | H27 0.615                   |
| M28 0.767                       | H28 0.615                   |
| M29 0.813                       | H29 0.742                   |
| M30 0.813                       | H30 0.742                   |
| M31 0.684                       | H31 0.684                   |
| M32 0.704                       | H32 0.704                   |
| M33 0.496                       | H33 0.644                   |
| M34 0.496                       | H34 0.644                   |
| M35 0.496                       | H35 0.644                   |
### Table 5 Internal Consistency (Cronbach’s Alpha)

| No. | Dimensions                          | Cronbach’s Alpha | Cronbach’s Alpha if Item Deleted | Notes                      |
|-----|------------------------------------|------------------|----------------------------------|----------------------------|
| A   | Motivator factors                  |                  |                                  |                            |
| 1   | Achievement                        | 0.841            | 0.823                            | M6, M13, and M19 deleted   |
| 2   | Recognition                        | 0.751            | 0.751                            | No item deleted            |
| 3   | The work itself                    | 0.306            | 0.402                            | M6 deleted                 |
| 4   | Personal growth                    | -0.368           | -0.368                           | No item deleted            |
| 5   | Responsibilities                   | 0.514            | 0.663                            | M13 deleted                |
| 6   | Practicing religious teachings     | 0.664            | 0.664                            | No item deleted            |
| B   | Hygiene factors                    |                  |                                  |                            |
| 1   | Policies and administration         | 0.899            | 0.893                            | H2, H5, H12, H26, and H32 deleted |
| 2   | Supervision                        | 0.434            | 0.609                            | H2 deleted                 |
| 3   | Interpersonal relation              | 0.617            | 0.759                            | H5 deleted                 |
| 4   | Incentives                         | 0.884            | 0.886                            | H12 deleted                |
| 5   | Personal life                       | -0.195           | -0.195                           | No item deleted            |
| 6   | Work condition                      | 0.780            | 0.793                            | H26 deleted                |
| 7   | Status                             | 0.434            | 0.434                            | No item deleted            |
| 8   | Social relation                     | 0.776            | 0.776                            | No item deleted            |

### Table 6 Final Items and Dimensions of the Motivator and Hygiene Factors

| No. | Dimensions                          | Items                      |
|-----|------------------------------------|----------------------------|
| A   | Motivator factors (14 items)       | M1, M2, M3, M4, M5        |
| 1   | Achievement                        | M7                         |
| 2   | Recognition                        | M9                         |
| 3   | The work itself                    | M8, M12, M15, M16, M17, M18, M19 |
| 4   | Responsibilities                   |                            |
| B   | Hygiene factors (24 items)         |                            |
| 1   | Policies                           | H3                         |
| 2   | Administration work                | H1, H4, H18                |
| 3   | Supervision                        | H9, H10, H28               |
| 4   | Interpersonal relation              | H13, H14, H15, H16, H17, H35 |
| 5   | Incentives                         | H19                        |
| 6   | Personal life                       | H24, H25                   |
| 7   | Work conditions                    | H27, H8                    |
| 8   | Status                             | H29, H30, H31              |
| 9   | Social relation                     | H20, H32, H33              |

Based on validity and reliability testing, five from the motivator factors and 11 from hygiene factors. Those items had low correlation, r count<1.38, and were not well explained. Although many items were excluded, the rest of the items were well defined in every dimension. This study revealed that the initial number of dimensions of the motivator and hygiene factors (6 and 8, respectively) that was set based on Herzberg’s theory and a study in Bandung city, changed to four dimensions of the motivator factors and nine dimensions of the hygiene factors after employing the principal component analysis and the varimax rotation method with Kaiser normalization.

The final dimensions of the motivator factors are achievement, recognition, the work itself, and responsibilities. In this study, possibilities for growth and practicing religious teachings were either excluded or blended into other dimensions. Three items of possibilities for the growth dimension were excluded from the questionnaire since they did not meet the validity and reliability values criteria, and one item (M12) correlated to the responsibilities dimension according to the principal component analysis results. According to Herzberg’s two-theory of motivation,
possibilities for growth are essential intrinsic factors that make a person satisfied in working. Still, the absence of this dimension does not make him/her dissatisfied.9 Possibilities for growth are the opportunities for a person to learn new skills, gain new knowledge, and be promoted in the workplace.9 Further exploratory studies should be conducted to explore new items correlated to the possibilities for the growth dimension. Practicing religious teachings identified as one of the motivator factors,10 became part of the responsibilities dimension. A study in Bandung city revealed that as a Moslem, it is his/her responsibility to help other people taught in their religion.24 Voluntary action driven by a sense of caring, sense of social responsibility, and part of worship.24 This study revealed that hygiene factors consisted of nine dimensions. The new dimension is the policies dimension. Herzberg’s theory of motivation stated that policies are part of the administration work dimension, nine, but this study discovered it is separated from that dimension. The statement that contributes to policies was, "Although the programs at posyandu lansia are constantly changing (H3)."

We found that the two-theory of motivation influence volunteering. Motivator factors as intrinsic factors cover Maslow’s hierarchy needs related to achievement, recognition for accomplishment, and satisfaction with the job.25,26 The absence of the motivation factors rarely causes dissatisfaction.8,25,26 Hygiene factors as extrinsic factors can demotivate or cause dissatisfaction. Still, these factors do not necessarily create satisfaction.8,25,26 Which factors contribute to satisfaction at the volunteering work vary around the world. Opportunities to learn new skills and gain experience; clear tasks and procedures; and recognition was the most factors that contributed to satisfaction and dissatisfaction.25,27,28

Several limitations of this study have been identified: (1) The study was conducted from only six puskesmas and one district, raising the generalizability of the results. To minimize this concern, 200 respondents were selected from a list of names of cadre and simple randomized selected based on the inclusion and exclusion criteria. (2) Test-retest reliability did not conduct in this study. However, this test has disadvantages if the respondents are familiar with the instruments and the period of the retest is narrow from the first test. (3) The study was conducted on cadres from one area, and they did not represent other ethnicities, religions, and cultures that exist in the Indonesian population.

The last limitation of this study was the collection of the data using the Google Form link to Whatsapp. Some of the disadvantages of using an online survey are the answers could be filled by another person, dishonest answers, misunderstanding, and misinterpretation.

Conclusions

The questionnaire demonstrates a promising performance after testing its validity and reliability. Therefore, this questionnaire can measure the posyandu lansia cadre’s satisfaction. However, since Indonesia is a big country and its population has various demographic characteristics, a study should be conducted to represent those groups.

Conflict of Interest

The authors affirm no conflict of interest in this study.

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