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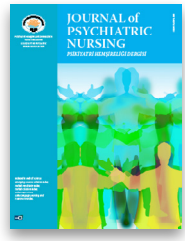

Original Article

Alexithymia in nurses and its relationship with burnout, anger, and somatization

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Abstract

Objectives: The aim of the study was to evaluate the alexithymia levels of nurses and the relationship between alexithymia and burnout, anger, and somatization.

Methods: This correlational descriptive study was conducted with 339 nurses working in four training research hospitals between February 3 and 28, 2014. Data were collected using the Demographic Questionnaire, Toronto Alexithymia Scale, Maslach Burnout Inventory, State-Trait Anger Expression Inventory, and SCl-90 somatization subscale. The analysis of the data was performed using descriptive statistics, the Mann-Whitney U test, Kruskal-Wallis test, and Spearman's correlation.

Results: The mean age of the nurses participating in the research was 30.8±7.3, 91.2% were female, and 28.6% (n=97) had moderate alexithymia. The alexithymic nurses had higher burnout ($p<0.05$), anger ($p<0.01$), and somatization ($p<0.01$) scores than those who did not exhibit alexithymia. A positive weak relationship was found between the alexithymia scores and burnout ($r=0.18$; $p<0.01$), anger ($r=0.34$; $p<0.01$), and somatization ($r=0.32$; $p<0.01$) scores.

Conclusion: The findings of the study showed that the level of alexithymia in nurses was high and the level of burnout, anger, and somatization increased as the alexithymia score increased.

Keywords: Alexithymia; anger; burnout; nurse; somatization.

Balanced functioning of emotions, thoughts, and behaviors allows individuals to build healthy and balanced relationships. Emotional processes and the ability to identify emotions are closely correlated to physical and psychological well-being.[1,2] However, many people have problems realizing and verbally expressing their emotions for various reasons. This problem, also described as being emotionally dumb, is defined as alexithymia.[3]

Alexithymia is derived from the combination of three Greek words a, lexis, and thymos meaning deficiency, word, and emotion, respectively.[4,5] Peter Emanuel Sifneos[6] (1973) used alexithymia for the first time to define emotional problems. Alexithymia, which is defined as "having no words for emotions" in the literature, is the combination of difficulty in realizing, identifying, and verbally expressing emotions and limited imagination and fantasy.[6–10] Alexithymia is characterized by difficulty in expressing all emotions at emotional, behavioral, physiological, and subjective/experiential levels.[10] Although alexithymia is a controversial concept in terms of whether it is a personality characteristic or a symptom related to mental problems, alexithymia is associated with symptoms of physical and mental health problems.[5,8,9]

Alexithymia can be associated with various problems such as depression, somatization, anger/aggression, and burnout.[7,10–

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What is known on this subject?

- Alexithymia poses a risk for various psychological problems such as burnout, anger, and somatization.

What is the contribution of this paper?

- This is the first study investigating alexithymia in nurses and the relationship of alexithymia with burnout, anger, and somatization. It was found that individuals with alexithymic personality characteristics had higher burnout, anger, and somatization scores and there was a relationship between alexithymia and burnout, anger, and somatization.

What is its contribution to the practice?

- The results showed that it is necessary to determine nurses' problems with identifying, realizing, and expressing their emotions and to develop prevention plans.

[14] Studies investigating the relationship between burnout and alexithymia show that alexithymia has a positive relationship with emotional burnout and desensitization and a negative relationship with personal accomplishment. They also find that alexithymia is a risk factor for burnout.[15–17] Many administrative, organizational, work-related, and personal factors can cause burnout. Although it is not certain why some individuals with similar working conditions are more susceptible to burnout, the way individuals perceive stress, personal characteristics, and coping methods may have an impact on the development of burnout. Certain personality characteristics such as neuroticism, extroversion, or alexithymia may increase stress and cause burnout.[15]

Because alexithymia is associated with emotions and interpersonal relationships, it is necessary to evaluate alexithymia and anger together. Alexithymic individuals usually do not analyze their problems and only superficially handle them.[18] Making judgements without deeply analyzing problems, an inability to form cause-effect relationships for problems, and an inability to add one's emotions to this process inevitably increases anger levels. Introverted anger in alexithymic people, which is defined as difficulty in the management of anger, suppression of anger, and inability to express anger, is a factor that negatively affects physical health.[19,20] Numerous studies show a significant relationship between alexithymia and the rate of reporting somatic symptoms and that alexithymia is a potential risk factor for somatization.[5,21,22] Moreover, in a study longitudinally investigating the relationship of alexithymia with ego strength and defense mechanisms, it was suggested that higher levels of alexithymia may be associated with immature defense mechanisms.[8] Therefore, it can be suggested that anger can be identified as somatization, which is an immature defense mechanism, in alexithymic individuals and this can explain the relationships between alexithymia and somatic symptoms.

Individuals working in the health sector commonly encounter psychologically challenging situations in their work life because they have difficulty providing service for high-stress patients with a high-level of stress and their relatives.[23–25] Nurses, who have primary roles in the management of healthcare, experience excessive stress in their work environments because of factors such as heavy workload, providing social and emotional support, inefficiency encountered during service delivery, low occupational autonomy, poor occupational image, low salary, an unwanted career, and poor reward systems.[23] Work-related problems negatively affect nurses physically, mentally, and socially and lead to burnout, anger, or somatic complaints.[15] While there are many studies on burnout, anger, and somatization in nurses, only a few studies investigate alexithymia and its related factors. In Turkey, studies on alexithymia used nursing students to investigate the relationship of alexithymia with factors such as empathy, depression, burnout, and family support.[2,16,26] However, no studies investigating the relationship of alexithymia with burnout, anger, and somatization were found. The most important responsibility of the human-oriented nursing profession is to provide holistic patient care. In order to increase the efficiency of the profession, nurses should be mentally healthy. Because nurses with alexithymic characteristics are at risk for various mental problems, it is necessary to analyze the level of alexithymia and the alexithymia-related factors in nurses. Within this context, this study was carried out to investigate the level of alexithymia, the relationship of alexithymia with burnout, anger, and somatization, and its related factors.

This study seeks answers to the following questions:

- What are nurses' levels of alexithymia?
- What are the demographic and professional variables affecting the level of alexithymia in nurses?
- Is there a relationship between alexithymia and burnout, anger, and somatization in nurses?

Materials and Method

Study Design and Sample

This study was carried out with a correlational and descriptive design. The data were collected in four full-fledged research and education hospitals affiliated with the Istanbul Anatolia North Public Hospital Association between February 3 and 28, 2014. The study population was composed of 1371 nurses working in these four hospitals. The study used the random sampling method. The sample was composed of 339 (24.7%) nurses who voluntarily participated in the study.

Data Collection Tools

The self-reported study data were collected using the Personal Information Form, Toronto Alexithymia Scale, Maslach Burnout Inventory, Spielberger State-Trait Anger Expression Inventory, and SCl-90 Somatization Subscale.

Personal Information Form: The form was developed based on the relevant literature and included eight questions about individual characteristics such as gender, age, marital status, and profession-related data such as education, duration of professional experience, work unit , duration of experience in their unit, and duty in their unit.[16,22]

Toronto Alexithymia Scale (TAS-20): The scale was developed by Taylor et al.[27] (1998) and was adapted to Turkish by Güleç et al.[28] (2009). The 5-point Likert type TAS-20 is composed of 20 items. The scale has three subscales: difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking. It was suggested that the cutoff score of the scale should be a minimum of 51 points if the study is conducted with a non-alexithymic group and a maximum of 59 points if the study is conducted with an alexithymic group. Higher scores on this scale indicate higher levels of alexithymia. Güleç et al.[28] (2009) have determined that the Cronbach's alpha value of this scale is 0.78 and that of the subscales is between 0.57 and 0.80. In this study, the Cronbach's alpha value of the scale was 0.80 and that of the subscales was between 0.60 and 0.78.

Maslach Burnout Inventory (MBI): The MBI was developed by Maslach and Jackson[29] (1981) and its Turkish validity and reliability study was carried out by Çam.[30] This four-point Likert type inventory is comprised of 22 items and three subscales. The scale has no total score; separate scores are obtained for each of the three subscales. Individuals experiencing burnout have higher emotional exhaustion (EE) and depersonalization (DP) subscale scores and lower personal accomplishment (PA) scores. Çam[30] determined the Cronbach's alpha values of the subscales are 0.81 for the EE subscale, 0.70 for the DP subscale, and 0.77 for the PA subscale. In this study, the Cronbach' s alpha value of the subscales were 0.85 for EE, 0.74 for DP, and 0.78 for PA.

Spielberger State-Trait Anger Expression Inventory (STAEI): The STAEI was developed by Spielberger et al.[31] (1983) and its validity and reliability study was carried out by Özer[32] (1994) in Turkey. This Likert type scale has four subscales and 34 items. The total scale score is obtained from the subscale scores. Higher scores on the subscales indicate that the level of anger increased for the constant anger subscale, that anger is suppressed for the anger expression-in subscale, easily expressed for the anger expression-out, and controllable for the anger control subscale. The Cronbach's alpha coefficients of the scale were 0.79 for the constant anger subscale, 0.78 for the anger expression-out subscale, 0.62 for the anger expression-in subscale, and 0.84 for the anger control subscale. [32] This study found that the Cronbach's alpha coefficients of the scale ranged from 0.75 to 0.88.

SCL-90 Somatization Subscale: This scale was developed by Derogatis (1977)[33] and its Turkish validity and reliability study was carried out by Dağ[34] (1991). The somatization subscale of the Likert type scale is composed of 12 items. Possible scores on this subscale range from 0.00 to 4.00. Scores higher than 1.00 indicate the presence of somatization. The Cronbach's alpha value of the somatization subscale is 0.75. In this study, the Cronbach's alpha value of the scale was 0.80.

Ethical Considerations

Before the study, ethical approval was obtained from Marmara University Institute of Health Sciences Ethics Committee (11.23.2013-10), written institutional permission was obtained from Istanbul Anatolia North Public Hospital Association, and written and verbal informed consent was obtained from the participating nurses.

Statistical Analysis

The study data were analyzed using the SPSS.20 software program. Number, mean, percentage distribution, and standard deviation were calculated in the statistical analysis. The distribution of the data was evaluated using the Kolmogorov-Smirnov Z test. Because the data were not normally distributed, Mann-Whitney U, Kruskal-Wallis test, and Spearman's correlation analysis were used to compare the variables and analyze their relationship. The significance level was accepted as $p<0.05$ and $p<0.01$.

Study Limitations

This study was conducted with nurses working in four full-fledged research and education hospitals affiliated with Istanbul Anatolia North Public Hospital Association. The results cannot be generalized because the study only included a single region and the participation was low.

Results

The mean age of the nurses was 30.8±7.3 (18-59) years, 91.2% were female, 53.4% were married, and 82.9% had an undergraduate degree. Additionally, 52.8% of the nurses worked in inpatient units, 14.7% in emergency service, and 8.8% in intensive care units. (Table 1). The mean scores obtained from the scales were 46.22±9.25 for the TAS-20, 69.14±11.7 for the MBI, and 1.37±0.75 for the SCL-90 Somatization Subscale (Table 2). It was found that 28.6% of the participating nurses had alexithymia.

There was a significant difference between the mean EE, DP, and PA scores of alexithymic and non-alexithymic nurses ($p<0.01$). Alexithymic nurses experienced higher EE and DP than non-alexithymic nurses did and non-alexithymic nurses perceived themselves as more successful than alexithymic nurses did. There was a significant difference between alexithymic and non-alexithymic nurses regarding their mean constant anger scores ($p<0.01$). Alexithymic nurses experienced more constant anger than non-alexithymic nurses did. Although alexithymic nurses had a higher tendency to suppress their anger, their anger expression was higher than non-alexithymic nurses. In the anger control subscale, non-alexithymic nurses controlled their anger more than alexithymic nurses did. There was a significant difference between alexithymic and non-alexithymic nurses regarding their mean somatization scores ($p<0.01$). Alexithymic nurses experienced more somatization than non-alexithymic nurses did (Table 3).

Correlation analysis found that there was a significant weak relationship between the nurses' TAS-20, MBI and subscales

Table 1. Nurses' descriptive characteristics (n=339)

Introductory characteristics	n	%
Age, Mean±SD (min-max)	30.8±7.3 (18–59)	
Gender		
Female	309	91.2
Male	30	8.8
Marital status		
Married	181	53.4
Single	158	46.6
Education		
High school	58	17.1
University and higher	281	82.9
Unit worked		
Inpatient units	179	52.8
Emergency service	50	14.7
Operating room	40	11.8
Intensive care	30	8.8
Outpatient units	30	8.8
Administrative units	10	2.9
Total	339	100

SD: Standard deviation.

scores, STAEI and subscales scores, and SCL-90 Somatization subscale score (Table 4). There was a significant difference between nurses' mean TAS-20 scores based on their work unit ($p<0.01$). Paired comparisons found a significant difference between working in inpatient units and working in emergency service, operating room, and administrative units. There was also a difference between working in administrative units and working in intensive care units, emergency service, operating room, and outpatient units ($p<0.05$) (Table 5). No significant relationship was found between nurses' age, duration of professional experience, duration of experience in their unit, and education level and their TAS-20 scores ($p>0.05$). Additionally, no significant difference was found between nurses' mean scores on the MBI, Spielberger STAEI, and SCL-90 Somatization Subscale regarding their work unit ($p>0.05$).

Discussion

It was found that 28.6% of the participating nurses had alexithymia at moderate levels. Bratis et al.[16] (2009) determined that the rate of alexithymia in nurses was 14.7% and their mean TAS-20 score was 46.84±13.38. In the study of Uzun[35] (2013), the mean TAS-20 score was 49.76±9.89. These results indicate that alexithymia is common among nurses.

No relationship was found between nurses' TAS-20 scores and their age, education level, duration of professional experience, and duration of experience in their unit. Faramarzi and Kahri[36] (2017), Taycan et al.[5] (2017), and Çaka et al.[26] (2018) determined that there was no significant difference between the level of alexithymia and sociodemographic variables (age, education level, and marital status). Some studies in the literature support the results of the current study, while others report a significant difference between alexithymia and advanced age, male participants, lower education level, and lower socioeconomic level.[2,11,23,37] Because there are different results on this subject, the results cannot be generalized. However, it can be suggested that demographic variables did not have an impact on the levels of alexithymia because the majority of the study group had an undergraduate degree, their mean age was not high, and the number of male participants was low.

On analyzing the nurses' alexithymia levels according to their work unit, nurses who worked in operating rooms, emergen-

Table 2. Nurses mean scale scores (n=339)

Scale	Min	Max	Mean±SD	Standard Error
Toronto Alexithymia Scale	26	72	46.22±9.25	0.52
Difficulty Identifying Feelings	7	30	13.75±4.90	0.27
Difficulty Describing Feelings	5	19	10.81±2.97	0.16
Externally Oriented Thinking	13	34	21.64±3.47	0.19
Maslach Burnout Inventory	22	109	69.14±11.7	0.67
Emotional Exhaustion	17	85	54.27±14.92	0.82
Depersonalization	5	25	11.47±4.77	0.26
Personal Accomplishment	8	40	29.35±6.10	0.34
Spielberger State-Trait Anger Expression Inventory				
Constant Anger	10	40	22±5.66	0.3
Anger Expression-In	8	29	17.28±4.13	0.22
Anger Expression-Out	8	29	16.36±4.6	0.23
Anger Control	10	32	22.94±4.45	0.24
SCL-90 Somatization Subscale	0	3.75	1.37±0.75	0.04

SD: Standard deviation.

Table 3. Comparison of burnout, anger, and somatization of alexithymic and non-alexithymic nurses (n=339)

Scale	Alexithymic (n=97)		Non-alexithymic (n=242)		Test	p
	Mean±SD	SE	Mean±SD	SE	Z	
Maslach Burnout Inventory						
Emotional Exhaustion	59.05±14.53	1.48	52.29±14.66	0.96	8218.50	0.000*
Depersonalization	13.43±5.00	0.52	10.72±4.47	0.29	7360.0	0.000*
Personal Accomplishment	27.74±5.14	0.53	30.10±6.30	0.41	7380.0	0.000*
Total	71.63±11.36	1.23	68.17±11.72	0.79	7628.50	0.028**
Spielberger State-Trait Anger Expression Inventory						
Constant Anger	24.67±5.43	0.55	20.92±5.40	0.34	7024.0	0.000*
Anger Expression-In	19.70±3.66	0.37	16.29±3.90	0.25	5626.0	0.000*
Anger Expression-Out	18.28±4.07	0.42	15.62±4.11	0.26	6517.0	0.000*
Anger Control	21.68±4.17	0.41	23.45±4.50	0.29	8679.0	0.001**
SCL-90						
Somatization Subscale	1.63±0.77	0.78	1.26±0.72	0.04	8406.0	0.000*

*The p value is significant at (p<0.001). **The p value is significant at (p<0.05). Z: Mann-Whitney U Test. SD: Standard deviation; SE: Standard error of the mean.

cy services, and intensive care units had higher mean scores. Paired comparisons showed that these differences were between inpatient units and emergency service, operating room, and administrative units as well as between administrative units and intensive care units, emergency service, operating room, and outpatient units. No study was found in the literature investigating the alexithymia levels of nurses according to their work unit. Nurses who worked in units such as intensive care units, operating rooms, and emergency services are subject to stress factors more than nurses working in other units; therefore, the risk of experiencing burnout syndrome is higher.[25] Nurses who frequently get angry because of the conditions of their unit and who suppress their anger cannot effectively maintain anger management processes. The secondary results of suppressed anger are stress, fatigue, burnout, and somatization.[24,25] Hamdan and Hamra[24] (2017) found that nurses who worked in emergency services had higher EE, DP, and PA scores. Ham and You[25] (2018) found that nurses who worked in emergency services and operating rooms experienced anger more than nurses working in other units. Barutçu et al.[38] (2008) found that the burnout levels of the nurses working in operating rooms were different compared to those working in intensive care units and emergency services. Özgür[23] (2008) determined that nurses working in operating rooms and intensive care units had higher somatization symptoms. Because alexithymic individuals are unable to identify and express their emotions and the underlying psychological stress, they focus their mood on their physical senses.[5] The literature suggests that nurses working in intensive care units, operating rooms, and emergency services are at risk of burnout, anger, and somatization.[24,25,38] It can be suggested that alexithymic individuals express their psycho-

Table 4. Relationship of alexithymia with burnout, anger, and somatization in nurses (n=339)

Scale	r	p
Toronto Alexithymia Scale		
Total Maslach	0.187	0.001**
Emotional Exhaustion	0.272	0.000*
Depersonalization	0.328	0.000*
Personal Accomplishment	-0.267	0.000*
Constant Anger	0.345	0.000*
Anger Expression-In	0.425	0.000*
Anger Expression-Out	0.320	0.000*
Anger Control	-0.293	0.000*
Somatization	0.327	0.000*

*The p value is significant at (p<0.001). **The p value is significant at (p<0.05).

Table 5. Comparison of nurses' Mean Toronto Alexithymia Scale Scores based on their unit (n=339)

Unit	Mean±SD / SE	χ^2	p
Inpatient Units[a] (n=179)	45.17±9.16 / 0.68	17.219	0.004*
Intensive Care[b] (n=30)	46.30±9.50 / 1.73		
Emergency[c] (n=50)	47.76±8.09 / 1.14		
Operating Room[d] (n=40)	48.87±8.75 / 1.38		
Outpatient Units[e] (30)	44.60±9.17 / 1.67		
Administrative Units[f] (10)	38.40±5.85 /1.85		
Paired Comparisons[z]	a>c (p=0.03); a>d (p=0.01); a>f (p=0.01); b>f (p=0.01); c>f (p=0.002); d>f (p=0.001); e>f (p=0.04)		

*The p value is significant at (p<0.05). χ2: Kruskal-Wallis Test. Z: Mann-Whitney U Test. SD: Standard deviation; SE: Standard error of the mean.

logical stress using alternatives such as somatization and that nurses working in these units develop burnout, anger, and somatization as a reaction.

The current study determined a difference between alexithymic and non-alexithymic nurses regarding their EE, DP, and PA mean scores. Bratis et al.[16] (2009), Katsifaraki and Tucker[17] (2013), and Popa-Velea et al.[39] (2017) found alexithymia is a risk factor for burnout, a positive relationship exists between EE and DP, and a negative relationship exists between PA and alexithymia. Iorga et al.[14] (2017) reported that the correlation between alexithymia and EE and DP is very high and that the more the difficulty identifying emotions increases, the more the burnout score will increase. They also stated that individuals with higher levels of alexithymia had a higher tendency for extrinsic thinking and that this increased the mean DP score. Thus, based on these data, alexithymic individuals are at risk of burnout because they have difficulty identifying and expressing their emotions.

The current study determined that there was a difference between alexithymic and non-alexithymic nurses regarding their constant anger, anger expression-in, anger expression-out, and anger control subscale mean scores. Atasayar[18] (2011) reported that individuals with alexithymic characteristics generally solve their problems superficially, which subsequently increases their level of anger. Konrath et al.[40] (2012) determined that alexithymic university students have higher aggressive behavior than non-alexithymic students. Evren et al.[41] (2015) found a positive relationship between alexithymia and aggression and that alexithymia is the main factor associated with aggression in the identifying emotions subscale in their study with individuals with substance abuse disorders. Additionally, Norman and Borrill[42] (2015) found that individuals with alexithymic characteristics have a higher tendency for self-destructive behavior. Roberton et al.[43] (2014) and Velotti et al.[44] (2017) reported that alexithymic characteristics cause anger. They further stated that anger is seen with depression and anxiety disorders, which are usually expressed with somatic complaints. It can be suggested that because skills and techniques for handling anger and appropriately expressing it can be insufficiently developed in alexithymic individuals, they might think it is easier and more accurate to relax by expressing their anger rather than trying to suppress it and hold it inside.

The current study determined that there was a difference between alexithymic and non-alexithymic nurses regarding their somatization mean scores. Not knowing the reasons for emotions can prevent someone from organizing their negative emotions in a healthy way.[45,46] However, individuals with alexithymic characteristics may interpret the physical symptoms of emotional arousal as the symptoms of a somatic illness.[46] Matilla et al.[22] (2007) reported that alexithymia is associated with somatization independently of somatoform disorder, anxiety, and depression. Because alexithymic individuals have weak skills empathizing with others, their tendency for somatization is higher. They also listen to their bodies rather than their feelings and express their emotions and thoughts with physical symptoms.[6,22] The results in the relevant literature and the current study suggest that somatization can be seen in individuals with alexithymic characteristics due to factors such as being unaware of their emotions, inaccurate interpretation of their emotions, and dramatization of their emotions.

Nurses' level of burnout, anger, and somatization increased as the level of alexithymia increased. Taycan et al.[15] (2014) found a positive correlation between alexithymia and EE and DP. Numerous study results support this correlation.[16,22,47] Shin and Eom[48] (2015) found in their study conducted with a group of university students in Korea that as the level of alexithymia increases, the level of anger increases, accordingly. Based on these results, EE, anger, and somatization might develop as a secondary emotion due to alexithymia.

Conclusion

The study results showed that alexithymia, burnout, anger, and somatization are common among nurses and that there was a relationship between them. Alexithymic nurses had higher burnout, anger, and somatization scores than non-alexithymic nurses. In addition, nurses working in units such as operating rooms, intensive care units, and emergency services had higher alexithymia levels than nurses working in other units. The study results cannot be generalized to the population; however, they were in compliance with the studies stating that burnout, anger, or somatization can develop in alexithymic individuals.

The lack of connection between identifying emotions, operational thinking, and the process of expression in alexithymic individuals leads to the use of immature defense mechanisms, and thus, can cause the development of psychosomatic symptoms. To provide healthcare services through effective and safe communication with individuals, families, and societies, nurses must be aware of their emotions. Therefore, studies determining nurses' level of alexithymia and the factors that can be associated with alexithymia should be conducted. Additionally, protective measures should be taken to create support systems for nurses and minimize the risk factors that are caused by nurses' working conditions.

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Peer-review: Externally peer-reviewed.

Authorship contributions: Concept – E.K.K., S.T., H.K., S.K.; Design – E.K.K., S.T., H.K., S.K.; Supervision – E.K.K., S.T., H.K., S.K.; Data collection &/or processing – E.K.K., S.T.; Analysis and/or interpretation – E.K.K., S.T., H.K.; Literature search – E.K.K., S.T.; Writing – E.K.K., S.T., H.K., S.K.; Critical review – E.K.K., S.T., H.K., S.K.

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