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The Effect of Taizé Prayer on Stress and Stress Resilience of Young Adults in Nonclinical Settings

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Abstract
Stress resilience is the ability to bounce back from stress. Religious vocal chanting has been known to have a positive effect on stress. This study explored the impact of Taizé prayer as a religious vocal chanting on stress reduction and stress resilience improvement. A nonrandomized controlled trial was conducted. Thirty-six Christian university students in Indonesia were recruited and included in the intervention and control groups without randomization. Subjects in the intervention group performed 30-min Taizé prayer for 28 days. The stress level was examined using the Perceived Stress Scale, and stress resilience was examined using the Connor-Davidson Resilience Scale-25. Differences within groups were analyzed using a paired t-test, while differences between groups were analyzed using an independent t-test. The intervention group showed a significant improvement in stress resilience ($p<0.01$), while the control group did not experience any change ($p=0.80$). Further, the stress scores decreased in the intervention group ($p=0.03$), whereas no significant change was observed in the control group ($p=0.22$). Changes in stress resilience were significantly higher in the intervention group than in the control group ($p=0.01$), while changes in stress scores did not differ significantly between the two groups ($p=0.33$). Taizé prayer might have positive effects on stress and stress resilience in young adulthood.

Keywords Vocal chanting · Taizé prayer · Stress resilience · Youth

Introduction

Daily routines experienced by a person can cause hassle, tension, or disturbance in the person's life, known as daily stress. Often, the daily stress is minor and not stressful, but it can contribute to the disruption of everyday life and increase a person's stress level

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(Upchurch Sweeney, 2013). Young people in early adulthood within the age range of 18–25 years old are still developing the physical, mental, and social aspects of their life. In this period, they experience some life transitions such as new living arrangements, employment, education, and relationships. Many potential aspects can cause increased stress, including daily routines. Coping style, self-esteem, life events, and social support influence reactions to stress (Matud et al., 2020). A person's assessment of existing stressors and the potential resources they have determine the level of stress. The same stressor in two different persons may not always cause stress in both (Taylor, 2018).

Resilience refers to the ability to cope successfully with the negative effects triggered by a stressful event (Afek et al., 2021). It is associated with quality of life. The higher the level of resilience, the higher the quality of a person's life and vice versa (Aldhahi et al., 2021). People with high resilience have a good social, mental, and physical life experience despite exposure to unfavorable conditions or stress (Faye et al., 2018). Many factors contribute to the development and maintenance of resilience. Biological, psychological, social, and spiritual factors interact with each other in the development of resilience (Tay & Lim, 2020).

Several studies linking spirituality with resilience suggested a positive relationship between the two, including in young adults. Spirituality is a protective factor for resilience (Dutta & Singh, 2017; Le et al., 2019; Roberto et al., 2020; Saad & de Medeiros, 2012; Seena & Ravindranadan, 2016; Sharma et al., 2017; Smith et al., 2013). Listening to religious music may promote psychological well-being (Bradshaw et al., 2015). Chanting is practiced in many traditions around the world as a way of deepening spirituality. Some chants are sung (vocal chanting), and some are silent (silent chanting). In vocal chanting, repeated words or syllables are spoken or sung on the same notes or series of notes. In silent chanting, the words or syllables are imagined without any vocalization. Some chants are Hail Mary or Ave Maria, Jesus, Jesus or Lord Jesus Christ, My God and My All, Namu Amida Butsu, Om Mani Padme Hum, Rama Rama, So Hum or So Ham, Barukh Atah Adonai, Ribono Shel Olam, Bismillah ir-Rahman ir-Rahm, and Allah (Plante, 2010).

Chanting can increase positive affect and altruism (Mishra et al., 2017). Vocal chanting can reduce stress and increase positive affect and social relationships with others. Vocal chanting is more effective than silent chanting in promoting positive emotions and altruistic behavior. The effect of vocal chanting on the body is mediated by three factors: increased social attachment, physiological changes, and focused attention. Increased social attachment occurs through group synchronization when people perform vocal chants together. Physiological changes occur when persons control their breath and sing, thereby increasing positive emotions. Focused attention inhibits ruminative thinking and causes an increase in positive emotions. People with high positive emotions tend to feel enthusiastic, active, and alert. Positive emotions can give people high energy, full concentration, and pleasurable engagement (Watson et al., 1988). Individuals with high resilience generally have positive emotions (Israelashvili, 2021; Tugade & Fredrickson, 2004). Additionally, improving positive emotions could also improve resilience (Gloria & Steinhardt, 2016). Positive emotions have an effect on building someone's physical, intellectual, and social resources. Fredrickson (1998) explained that there are four positive emotions, which are joy, interest, contentment, and love. She further identified 10 positive emotions that have an impact on a person's life, which are joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love (Fredrickson, 2009). Religious chanting helps form positive emotional schema to overcome negative emotions (Gao et al., 2020). Religious chanting can make people experience mystical states, which are characterized by a positive mood (Perry et al., 2021).

Many studies have examined the effects of various religious chants on mental health. Lynch et al. (2018) conducted a systematic review of mantra meditations for mental health and found that transcendental meditation, OM chanting, mantra repetition, and Japa meditation positively affect mental health. Mantra meditation can relieve anxiety, stress, depression, and anger, while OM chanting, one form of chanting in Buddhism, Hinduism, and the yoga tradition, can decrease stress (Mishra et al., 2017). Quran recitation in Islam has also been found to promote relaxation (Nayef & Wahab, 2018). Taizé meditation was found to reduce the anxiety level of nursing students in Medan (Karo et al., 2020). Mahatma chanting can reduce stress and burnout in nurses (Niva et al., 2021). Sutra chanting (Buddhism), Amitabha (Buddhism), and OM chanting (Buddhism) have been studied for their stress-relieving effects. Meditation with mantras (transcendental meditation, OM chanting, Benson's relaxation response, and Japa yoga) can increase resilience (Amin et al., 2016; Gao et al., 2017; Lynch et al., 2018). Amitabha chanting also can help people regulate negative emotion (Gao et al., 2017) and promote a positive emotion (Gao et al., 2020).

Taizé songs in Taizé prayer are a Christian religious chant. A Taizé song is a short chant, consisting of one or two phrases taken from the Psalms or other text that can be repeated. This short, repeated phrase has the power to penetrate a person's psyche, awakening the desire to practice it in daily life and giving rise to the understanding that God God-self speaks to us (Jasper, 2014).

The Taizé prayer is a prayer that originated from the Taizé community in Taizé village in Eastern France. The Taizé community created a unique liturgical tradition, combining Byzantine and Latin liturgical elements (Crișan, 2019). In Yogyakarta, Indonesia, some communities regularly perform the Taizé prayers, such as the DNTZ Yogyakarta community and the Congregational Scholastic Congregation of the Priest of the Sacred Heart of Jesus in Yogyakarta (SCJ Yogyakarta). Taizé prayer in the DNTZ Yogyakarta is usually performed by young people (Martopo, 2021).

The Taizé prayer contains many elements from various Christian traditions and reflects words, symbols, and liturgical gestures of Eastern and Western Christian spirituality. The sequence in the Taizé prayer consists of hymns, psalms, readings, and prayer or intercession. Singing Taizé songs is one of important elements in Taizé prayer. The songs consists of short phrases taken from the Bible, the church Fathers, the liturgical services of many Christian traditions, and even the martyrs. A song is sung repetitively for a certain time (Crișan, 2019). Further information about Taizé songs can be found on the Taizé website (https://www.taize.fr/en).

The liturgy in Taizé prayer allows people to participate freely. The main celebrant does not invite or direct others to do something. The liturgical sequence is written on a prayer sheet. Individuals are free to sing along if they want to. Another repetitive element is a moment of silence. A moment of silence gives people the opportunity to explore anything they wish. They can communicate with God, try to hear God's voice, communicate with themselves, or just be in a state of mind-wandering (Crișan, 2019).

The religious chant traditions mentioned earlier practice the chants only, while in Taizé prayer, one participates in listening to music, singing, praying, and meditating. Previous research has shown the impact of singing, praying, and meditation on stress and resilience separately. Research on Taizé prayer is scarce. This study aimed to explore the effect of Taizé prayer on stress resilience improvement in nonclinical settings. The research assessed stress and stress resilience of the participants using questionnaires.

Taizé prayer has the potential to improve resilience and reduce stress by positively influencing spirituality. According to George Vaillant (2008), spirituality is a combination of positive emotions such as compassion, forgiveness, love, hope, joy, faith, admiration,

and gratitude. Spirituality develops through positive emotions learned during a person's maturation process from infancy to old age. Saslow et al. (2013) suggest that spirituality is linked to spiritual identity, transcendental experiences, and prayer. Expressing gratitude and hope through songs and prayers can enhance spirituality. Praying, singing, meditation, and spirituality can increase positive emotions that play a role in increasing stress resilience and reducing stress. We hypothesized that there would be an improvement in stress resilience and a reduction in perceived stress in the intervention group compared to the baseline and the control groups.

Methods

Study design

We conducted a nonrandomized controlled trial. The duration of the intervention was 28 days. The intervention was Taizé prayer. Participants in the intervention group could still do their daily prayera besides Taizé prayer. Participants in the control group were not asked to perform certain prayer rituals outside of their daily habits.

Study population

Sample size The minimum number of samples was determined by the formula for the difference between the two means, with a power of 0.8 and a significance level of 0.05. The standard deviation for the first and second groups were 11.2 and 11.6, respectively. The mean difference in the group was 12.2 (Sood et al., 2011). The minimum number of participants in each group was 14. Assuming a dropout of 25%, we recruited 18 respondents per group.

Recruitment Participants were recruited from a private university in Yogyakarta, Indonesia. Recruitment was done using a flyer and text messages in student social media groups. The sampling method was purposive sampling. None of the participants had any information about Taizé prayer nor how to do it prior to the study.

Inclusion and exclusion criteria Participants who were 18–25 years old and willing to participate in prayer sessions and fill out the questionnaires were included. Participants were excluded if they regularly meditated at least three times a week, did not completely fill out the questionnaires, or did not take part in the whole prayer session.

Participants were nonrandomly assigned to the intervention and control groups. Participants could choose the group that they prefered.

Intervention

Participants in the intervention group were given a video recording of 28 days of Taizé prayer and asked to do the prayer according to the video after 6 p.m. or before they went to sleep. The Taizé prayer consists of singing the Taizé song for 5 min, listening to psalms and a Bible reading, singing the Taizé song for 5 min, a 10-min silent session, praying a

prayer of gratitude and the Lord's prayer, praying a closing prayer, and finally singing a Taizé song for 5 min. The intervention used 14 Taizé songs in the Indonesian language (Bahasa Indonesia), with three songs per session. The titles of the songs were "Adoramus Te Domine," "Laudate Omnes Gentes," "Bless the Lord," "Benedictus," "Nada Te Turbe," "Tui Amoris Ignem," "Wait for the Lord," "Stay with Me," "Bleib mit deiner Gnade," "El Senyor," "Sanctum Nomen Domini," "Confitemini Domino," "L'ajuda Em Vindra," and "Bonum Est Confidere." The participants were asked to sing aloud in every singing part.

Before the intervention, a briefing was conducted to ensure each respondent knew what they had to do during the 28 days of the intervention. To ensure the respondents in the intervention group followed Taizé's prayer, they were asked to fill out a daily logbook and attach photos when they attended prayer sessions. Six respondents were monitored by one research assistant, who reminded them to attend prayer sessions and fill out logbooks daily. A limitation of this study is the absence of direct supervision when the respondents prayed. Participants in the control group did not engage in additional prayers or rituals. They were allowed to join the Taizé prayer after completion of the study.

Study instruments

Stress was assessed using the Perceived Stress Scale-14 (PSS-14; Cohen et al., 1983), a self-reported stress assessment instrument that has been used widely to identify an individual's perceived stress. The PSS-14 consists of 14 questions, with seven positively stated items. The subjects were asked to choose the most suitable answer regarding the frequency of events happening in their life (*never*, *rarely*, *sometimes*, *fairly often*, or *very often*). The more frequent something occurs, the higher the score is. The score is obtained by reversing the scores on questions 4, 5, 6, 7, 9, 10, and 13 (positive items) and summing across all 14 items. The higher the score, the more the subject has perceived stress. The PSS-14 was designed for use in subjects with at least a junior high school education level (Cohen et al., 1983). The PSS-14 questionnaire was translated from English to Indonesian by two independent translators. Once the translation was complete, the researchers reviewed and adjusted the terms as necessary. A reverse translation was then carried out to ensure that the Indonesian questionnaire had an equivalent English translation. The questionnaire was tested on 30 subjects, aged between 18 and 25 years, who were from a tertiary institution. Cognitive debriefing was carried out, and it was found that the subjects could understand well all statements on the questionnaire. To validate the questionnaire, construct validity assessment and reliability testing (internal consistency) with Cronbach's alpha were carried out. Each question on the PSS-14 questionnaire had an R count greater than R table (>0.36). Reliability tests showed a Cronbach's alpha of 0.77.

Spirituality measurement in this study used the Daily Spiritual Experience Scale (DSES; Underwood, 2011) questionnaire. The questionnaire consists of 16 questions. It is designed to measure a person's spiritual experiences in daily life. The question measures how deeply a person is aware of the divine or the transcendent. The questions identify admiration, gratitude, compassion, connection with the transcendent, compassion, awareness of wisdom/inspiration, deep inner peace, and closeness to God. The DSES questionnaire was translated and validated in the same way as the PSS-14 questionnaire. Each question on the DSES questionnaire has an R count greater than R table (>0.36). Reliability tests show a Cronbach's alpha of 0.90.

Stress resilience was examined using the Connor-Davidson Resilience Scale-25 (CD-RISC-25)-INDO (taken from www.cd-risc.com). It consists of 25 statements describing

different aspects of resilience, which are hardiness, coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition, and self-efficacy. This questionnaire is designed as a self-rating scale. The subjects were asked to respond whether they agreed or not with each statement according to their experience in the previous month. If they had not experienced it, they were asked to think about how they would react. Each question must be responded to using a 5-point Likert scale. If they strongly agree with the statement, then the score for the item is 4, and when they strongly disagree, the score is 0. The total score ranges from 0–100, with a higher score reflecting greater resilience. Further information on the CD-RISC can be found on the www.cd-risc.com website. To assess its construct validity and reliability, a Cronbach's alpha test was performed on the questionnaire. Each question on the questionnaire has an R count greater than R table (>0.36). The reliability test showed a Cronbach's alpha of 0.90.

Data collection and analysis

Spiritual experience was measured by the DSES questionnaire before the intervention. All participants filled out the stress and resilience questionnaires before the first day of prayer began, on day 14, and on day 29. The data at the beginning of the trial were baseline data. The normality test of the data was carried out with the Shapiro–Wilk test. The stress score and the resilience score were normally distributed. The difference between the beginning and end of the trial in each group was analyzed with the paired t test. The difference between groups was analyzed with the unpaired t test. The difference between the resilience scores of data at the beginning and the end of the trial (the delta) was not normally distributed, so the Mann–Whitney test was done to analyze these scores. The relationship between resilience and stress was tested with a simple linear regression test. The mean data were shown using mean $\pm$ standard deviation (*SD*). All statistical analyses were conducted using Stata 15.1 (Stata Corp., College Station, TX), serial number 301506265030.

Results

Thirty-six subjects participated in this study. Throughout the study, there were 16 participants in the intervention group and 14 in the control group. Data from 30 participants were analyzed. The mean age of the participants in the intervention group and the control group were 20.44 ± 0.32 and 20 ± 0.21, respectively. There were 7 males and 8 females in the intervention group and 5 males and 9 females in the control group. The age and gender of the participants did not differ between groups ($p=0.43$ and $p=0.66$, respectively). At the beginning of the study, the stress score of the intervention group was higher than that of the control group ($p=0.04$; $p<0.05$). However, at the end of the study, the stress scores of the intervention group had decreased significantly compared to the beginning of the study ($p=0.03$; $p<0.05$), while there was no change in the stress scores of the control group ($p=0.22$; $p>0.05$). The changes in stress scores between the intervention and control groups were not significantly different from one another ($p=0.33$; $p>0.05$). At the beginning of the study, the resilience scores of both groups were similar ($p=0.58$; $p>0.05$). However, there was an increase in resilience scores in the intervention group ($p<0.01$; $p<0.05$), while there was no change in the resilience scores of the control group ($p=0.80$; $p>0.05$). The increase in resilience scores in the intervention group was higher than that in the control group ($p=0.01$; $p<0.05$). In terms of spirituality scores, there was no

significant difference between the two groups at the start of the study ($p = 0.33$; $p > 0.05$). However, there was an increase in spirituality scores in the intervention group ($p = 0.01$; $p < 0.05$), while there was no change in the control group's scores ($p = 0.37$; $p > 0.05$). The increase in spirituality scores in the intervention group was higher than that in the control group ($p = 0.01$; $p < 0.05$). The scores for resilience, perceived stress, and spirituality are shown in Table 1. A linear regression test conducted between resilience and spiritual scores found that they had a positive linear relationship ($p < 0.01$, $r = 0.89$).

Discussion

This study aimed to explore the effect of Taizé prayer on perceived stress reduction and stress resilience improvement. At the beginning of the study, the stress scores in the intervention group and control group groups were different, indicating that they were not at the same level of stress. The intervention group had a higher stress level than the control group. However, at the end of the study, there was no difference in stress levels between the two groups. Although there was no difference in stress levels between the intervention group and control group at the end of the study, the different baseline confirmed the changes in stress levels that occurred in the intervention group. Participants had more or less the same academic stressors as they were all undergraduate students. The effect of age and sex on perceived stress was minimized by uniformity of age and sex proportions in the two groups.

Perceived stress is the result of the process of assessing an event, assessing potential resources, and responding to an event. When a person's resources are more than sufficient

Table 1 Comparison of resilience, perceived stress, and spirituality scores between groups

	Intervention (mean ± SD)	*p*	*p*'	Control (mean ± SD)	*p*	*p*'	*p*"
Resilience							
Day 0	65.56 ± 16.98#	-	-	68.5 ± 10.92#	-	-	0.58
Day 14	73.44 ± 16.05#	0.01*	0.27	66.64 ± 8.05#	0.41	1.00	
Day 29	74.44 ± 14.26#	< 0.01*	0.58	69.21 ± 9.13#	0.80	0.25	
Δ	8.88 ± 11.34#			0.71 ± 10.09			0.01*
Perceived stress							
Day 0	31.75 ± 3.79#	-		29.07 ± 3.02#	-		0.04*
Day 14	31.31 ± 4.54#	0.34	0.34	29 ± 2.94#	0.47	0.47	
Day 29	29.69 ± 3.77#	0.03*	0.10	28.36 ± 3.20#	0.22	0.20	0.31
Δ	−2.06 ± 3.92#			−0.71 ± 3.43#			0.33
Spirituality							
Day 0	66.69 ± 11.36#	-		70.29 ± 8.01#	-		0.33
Day 14	71.81 ± 7.20#	0.02*	0.02*	70.43 ± 8.57#	0.94	0.94	
Day 29	73.44 ± 8.24	0.01*	0.25	71.07 ± 6.99#	0.37	0.74	
Δ	6.75 ± 9.20#			0.79 ± 3.14			0.01*

p = *p* value when the mean is compared to the beginning of the study; *p*' = the value of *p* when the average is compared to the average of the previous time; *p*" = *p* value when the means of the two groups are compared; # normally distributed; * statistically significant; Δ = end minus beginning scores

to cope with a difficult situation, they may feel a little stressed and challenged. When a person feels that their resources may be sufficient to deal with an event but they still have to put in the effort, that person may experience moderate stress. When a person feels that their resources are inadequate to cope with a stressor, they may feel extremely stressed (Taylor, 2018).

The songs chosen for this study were about praising the Lord, inviting God to live in human hearts, surrendering anxiety and hope to God, and acknowledging that God is the savior and a source of joy, grace, and peace. After performing Taizé prayer, the body feels relaxed and calm. In addition, feelings of fear, anxiety, worry, and tension are reduced (Karo et al., 2020). The activity of listening to music, whether self-selected or not, affects a person (Dingle et al., 2021). It can reduce stress (Baltazar et al., 2019; Walter et al., 2020), anxiety, and pain (Dingle et al., 2021). Listening to music also improves mood (Radstaak et al., 2014), It is also associated with improved cognition, relaxation, emotional regulation, the ability to perform daily tasks, and the ability to interact socially (Dingle et al., 2021). The process of listening to music modulates the activity of brain structures involved in emotional regulation (Koelsch, 2014).

In addition to music and singing, the Taizé prayer liturgy includes recited prayer sessions. The series of prayers in the intervention are in the form of prayers of thanksgiving, the Lord's prayer, and closing prayers. The words in the prayer of thanksgiving bring the listeners to realize and be grateful for the things that happen to them (all events, all emotions, every encounter, the opportunity to grow and develop) and also be grateful for God's grace (breath of life, talents, blessings). Manita et al. (2019), in their research on young adults in Aceh, demonstrated that gratitude moderation is related to stress and individual well-being. Stress levels are negatively related to a person's well-being. Gratitude is a factor that moderates the relationship between the two. Individuals who focus on things to be grateful for have lower stress levels and higher well-being (Manita et al., 2019).

Moments of silence are another important repetitive aspect of Taizé prayer. It encourages the person praying for it to engage personally with God (Crișan, 2019). Jasper (2014) explains that in times of silence, people automatically enter into a deeper relationship with God. Taizé prayer does not teach how to pray but helps people to find time and place with God. In this togetherness, God Godself will embrace those who come to God. In moments of silence, one may physically be still, yet one's mind can remain active and wander. This is known as mind-wandering, where thoughts exist that are not related to the immediate environment or task at hand (Morin & Racy, 2021). Mind-wandering can have different effects on an individual, depending on the nature of the thoughts. Negative thoughts, such as those related to sadness or despair, can have a detrimental impact on their mental state. Conversely, positive thoughts, such as those filled with enthusiasm or joy, can have a beneficial effect on an individual's well-being (He et al., 2023). The prayer intervention in Taizé incorporates song lyrics and content that increase gratitude and hope in God. The belief that God blesses, accompanies, and gives strength promotes positive thinking and emotions.

This study also showed that Taizé prayer increased the resilience score in the intervention group, and the increase was higher than in the control group. The identification of the level of resilience on day 14 showed an increase compared to the baseline. The linear regression performed between stress resilience and spirituality shows that the relationship is linear and positive. This supports our hypothesis that improved resilience is linked to spirituality.

Physical, cognitive, emotional, and spiritual factors both within the individual and in society are the four components of resilience (Levine et al., 2017). These factors interact with each

other in the development and maintenance of resilience (Tay & Lim, 2020). The Taizé prayer may play a role in emotional and spiritual factors. As mentioned in the previous section, singing Taizé songs might increase closeness to God and make people feel peaceful, joyous, and blessed (Tay & Lim, 2020). For people who often feel God's love and guidance, the more often they pray, the less stress they feel. The adverse effects caused by stress will also be minimal (Wnuk, 2023). The meditative element of the Taizé prayer has the potential to increase positive emotions. Positive emotions can moderate the effects of negative emotions when people are exposed to stress so that they experience increased life satisfaction (Tay & Lim, 2020).

Singing songs can increase heart rate variability, which is associated with respiratory sinus arrhythmia (Khoff et al., 2013). When singing a slow song, a person tends to slow their breath (Bernardi et al., 2017). In Taizé prayer, people sing along to the music. There is a certain song structure that indirectly guides a person's breathing pattern. Vocalizations stimulate laryngeal nerves and pharyngeal nerves. Long exhalations increase the vagal brake (Porges, 2022). Expiration stimulates the parasympathetic control, whereas inspiration decreases the parasympathetic control (Khoff et al., 2013). When the parasympathetic nerves are stimulated, heart rate and respiration rate get slower. Heart rate variability is linked with cortical regions that are involved in stress perception. Higher heart rate variability reflects better autonomic nervous system function, indicating better body response to stressors (Kim et al., 2018).

Limitations

This study is not intended to favor Taizé prayer over other chanting or other activities that resemble parts of Taizé prayer. This research is a pilot study on the effect of Taizé prayer on stress and stress resilience. The small sample size means that the results cannot be applied to other contexts. Although we asked participants in the intervention group to document their prayer activities with selfies, we were unable to verify whether they took prayer seriously or not. This study did not identify factors that may play a role as stressors in young adults, such as relationships, employment, coping style, life events, or social support. This study also cannot exclude the effects of other factors that influence perceived stress. In this study, physical, cognitive, emotional, and spiritual factors were not specifically identified. This study explored the subjective experiences of the respondents. The study was conducted in nonclinical settings and without any attempt to control stress.

Conclusions

Taizé prayer songs have positive effects on stress and stress resilience in young adulthood. Accordingly, Taizé prayer can be considered an alternative method to increase resilience in young adulthood.

Future directions

The effect of Taizé prayer in improving resilience is thought to be mediated by the mechanism of the activity of singing. Future research can compare the effects of singing Taizé songs versus singing other songs. Future research could also further explore mechanisms of Taizé prayer's influence on stress resilience. More objective parameters should be explored

in the future. These parameters could include physical examinations, hormonal and neurotransmitter profiles, or brain wave patterns. This study focused on university students. A future study could also explore the beneficial effects of Taizé prayer for other age groups or professions.

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Declarations

Ethics approval All participants completed the informed consent form before the intervention or filling out the questionnaires. The study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Medical and Health Research Ethics Committee (MHREC) Faculty of Medicine, Public Health, and Nursing Universitas Gadjah Mada – Dr. Sardjito General Hospital with number KE/FK/1127/EC.

Competing interest The authors have no relevant financial or non-financial interests to disclose.

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