

Effects of Guided Imagery, *Zikar Azkar*, and Priming Technique on Stress and Relaxation Level Among University Students

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This study was conducted to find out the effectiveness of the three relaxation techniques which are Guided Imagery, *Zikar Azkar*, and Priming Technique on coping with stress and on the relaxation state of an individual. The total sample included 51 university students in which each group had 17 female students. Smith Relaxation States Inventory 3 and Perceived Stress Scale were used to measure relaxation states and perceived stress levels of the participants. The Smith Relaxation States Inventory 3 has two subscales. The State Version (SRSI3) measures the current relaxation state of a person and the Disposition Scale (SRSI3d) evaluates how often individuals experience worries, stress, and negative emotions. The participants were randomly assigned to three groups. The questionnaires were administered before and after four weeks to the participants. The findings of the study showed that all the three relaxation techniques were effective in reducing stress, however, the results show that *Zikar Azkar* was more effective than Guided Imagery and Priming Technique. It was also found that *Zikar Azkar* was also effective in improving the relaxation state of individuals besides being more effective than Guided Imagery, and Priming Technique in reducing negative emotions and stress.

Keywords. Guided imagery, *Zikar Azkar*, priming technique, perceived Stress, relaxation states

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A competitive society of modern days made mankind to face number of challenges in the form of competitions in different areas of life thus leading to mental health issues ranging from mild to severe disorders. Stress being one of the most common and prevalent in both youth and adults, has been widely studied (Pascoe, Hetrick, & Parker, 2020).

Selye (1936) defined stress as “the non-specific response of the body to any demand for change”; stress is a feeling of strain and pressure (Tan, Siang, & Yip, 2018). Excessive amounts of stress, however, may lead to bodily harm (Jarinto, 2010). Stress is the leading cause of mental problems and physical problems in students; therefore feeling relaxed is beneficial for health (Regehr, Glancy, & Pitts, 2013). In studies it was found that stress or any other mental health issue can affect both patients and their families (Chaboyer, Thalib, Alcorn, & Foster, 2007). The stress can lead eventually to depression and other mental disorders. Many relaxations techniques are used to minimize the effects of stress (Rabi, Poormemari, Doost-Mohamadi., Eskandari & Avaze, 2010). Relaxation techniques are therapeutic exercises designed to assist individuals with decreasing tension and anxiety, physically and psychologically (Norelli, Long, & Krepps, 2020).

Every religion has their own practices like, meditation, recitations of some religious books and verses. It also depends on the individual level of religious beliefs. Bowlby (1952) theorizes that attachment to creed and persons contribute to keeping good health and management of routine problems, better mental health, and maintenance of self-esteem and smooth working of relationship. On the same analogy he concludes that attachment to God will also produce the same results.

For Muslims remembering *Allah* is important to relieve their stress when exposed to it. There are many religious practices such as remembering *Allah* by praying and doing *Zikar Azkar*. The different types of *Zikar* help in relieving stress pain and restore relaxed state of mind. *Zikar* helps in purifying the heart, light up the soul and wisdom. *Zikar* of *Allah* (SWT) influences the disturbing impulses generated by brain to restore peace of mind and the person gets relaxation. *Zikar* is a form of worship practiced by Muslims after every prayer or any time during day and night when they feel to bring composure to themselves from the stress of worldly problems which they face almost daily (Zohar, Marshall, & Marshall, 2000). *Zikar* is intended to establish mental connection to *Allah* (SWT), the ruler of the universe and seek his mercy and forgiveness which provides relief from stress to the true believers (i.e., Muslims).

During *Zikar* meditation, consciousness of the object of meditation is directed to *Allah* (SWT). Thus, this transcendental meditation is mostly used as a way to bring ourselves closer to *Allah* (SWT) or transcendently unite with *Allah* according to Subandi (as cited Purwanto & Zulekha, 2007). The phrases [Ya *Allah*] and [Subhannallah] are either uttered in silence or loudly to bring solace to the mind (Tim Zahra, 2006).

Guided imagery (GI) is a psychotherapeutic intervention that is simple and easy to administer in a short time. It is a technique that affects both psychological and physiological modalities. In this technique a person needs to imagine and experience a situation conducive to peace of mind which in reality doesn't exist. The views and images are processed by the brain and thus create some physiological state of relaxation (Menzies & Taylor, 2004). Psychologist's uses Guided imagery to help maintain brain level of the different neurotransmitters like cortisol in order to reduce stress, fatigue and anxiety (Menzies, Lyon, Elswick, McCain, & Gray, 2014).

Guided Imagery technique is defined as the use of the imagination to bring about positive mind and body responses and help in bringing back a state of relaxation (Rossman, 2000). There are certain mental images that are invoked in this technique that can produce calming state of psychological and physiological ease related with the different stress and mood disorders. The individual is asked to replace the negative thought processes with positive cognitive processes (Achterberg, 2002). As using pure western and religious techniques there is a technique which is combination of both. Priming is a technique that allows memory to recall past information and events that triggers at that time by any external stimulus. One can trigger one's memory by available information processing (Tulving & Schacter, 1990).

This technique is applicable when person is exposed past information or to one stimulus and is recalled as a whole then aspect of that situation is made silent to the person and let them focus on it for a while (Weingarten et al., 2016). The social judgments, impressions, attitudes, product evaluation, stereotyping, and physical symptoms were studied to have been influenced by priming (Ikegami, 1993). It's a technique which works better when the two stimuli are in the same modality. It could be that visual cues for visual priming and verbal cues for verbal priming (Weingarten et al., 2016). In some cases both could be used together like in semantic priming (Tulving, Schacter, Heather, & Stark, 1982).

“Now surely in *Allah*’s remembrance do hearts find rest” the holy *Quran* states. Psychology says that connecting to someone as social support in a stressful situation a friend and family reduces stress. The first statement indicates the same meaning that *Zikar Azkar* of *Allah* names is effective for inner peace of minds as one feels lost and lonely fighting the problem, therefore, they usually remember *Allah* as the ultimate guide and source of help when exposed to anxiety and stress and want help from Him.

The incantation could be loud or in silence (*Zikar Azkar, Tasbihat*). In a study it was found that individual and families have lesser level of anxiety and stress who repeatedly do *Zikar Azkar* while waiting out of the ICU for their loved ones are being subjected to surgery (Mehdipour-Rabori & Nematollahi, 2014). According to the study before surgery *Zikar Azkar* is more effective than the Benson relaxation method. This shows that this gives relaxation to the mind and body as it helps mind to focus on a single thing and shifts mind from the stressor to the Almighty and develops a sense of positive hope that there is someone who will help overcome the stress (Nikbakht, Taghavi, & Mahmoodi, 2001). The cognitive concept behind it is that individual tries focusing on the actual meaning of words that are usually having some positive meaning in these prayer as one says while recalling past events and memories. In a study it was also found that patients who do *Zikar Azkar* while undergoing open heart surgery recover speedily from their stress signs and the symptoms are also controlled (Vasegh & Mohammadi, 2007).

Zikar is a form of meditation that can relax both mind and body by giving a psychological relief from stress and by spiritually connecting one to its creator (Khan, 2000). This can bring positive effects and relief from stress by focusing attention on particular bodily sensations, maintaining breathing and impulses (Sallum, 2006). *Zikr* meditation is the exact opposite to the stress responses where the repetition of words or certain short phrases triggers a series of physiological changes, including slowed breathing, heart rates, and normalizing blood pressure there is a negative correlation between meditation and insomnia (Purwanto & Zulekha, 2007). Azma et al. (2006) conducted a research study that showed that in addition to pain *Zikar* helps in reducing symptoms of stress, anxiety, and depression.

In a quasi-experiment study, it was found that *Zikar Azkar* therapy is effective right before any surgical practice. In this study 23 pre-operative appendectomy patients participated in *Zikar Azkar* therapy that showed decrease in anxiety and stress than control group (Wulandari, Huriyati, & Kep, 2015). In addition, pregnant women are prone to depression anxiety and stress. In a study, it was found that

Primigravidas (mother who becomes mother for first time) are more susceptible to depression, anxiety and stress. It was pre and post test study with 30 female participants from Community Health Centres who received midwifery care plus spiritual *Zikar*. There were also a control group who only received routine midwifery care. It was found that participants from the experimental group who received both midwifery treatment care and spiritual *Zikar* showed reduction in stress and depression as compared to control group (Wahyuni, Anies, Soejoenoes, Putra, & Syukur, 2018). Another quasi experiment study of cancer patients had two groups one who practiced *Zikar* therapy once on a daily basis was the intervention based group while the other was control group. The study found that participants in the intervention based group showed significant decrease in the anxiety and stress level as compared to the control group (Sulistiyawati & Probosuseno, 2019).

In a study aimed to find *Zikar* relaxation effectiveness in reducing anxiety and stress of chronic renal failure patients who go for hemodialysis, as they focuses more on the ultimate power of Almighty and becomes psychologically dependent on the creator and his power which their *Zikar* words and phrases dictates them to be of divine power and cultivate a sense of hope in their minds and thus, the results showed significant effectiveness of this technique and were most effective for such patients (Kusuma, Rahmawati, & Dede, 2020).

Through *Zikar* meditation one can develop mindfulness by cultivating attention to objects in a particular field of awareness, such as the breath flowing, sensations of the body, sounds, thoughts, perception, and impulses (Sallum, 2006). It is exactly opposite to the stress responses which can influence the sensation of pain. The responses occur through the repetition of words or certain short phrases. The gentle return to this repetition brings the thoughts that trigger a series of physiological changes, including slowed breathing, heart rates, and blood pressure (as cited in Purwanto & Zulekha, 2007).

In a community based nursing it was revealed that guided imagery and progressive muscle relaxation decreases depression in cancer patients (Sloman, 2002). Campbell-Gillies (2004) found in her study that positive mental images along with soothing music decreased breast cancer patient's anxiety and depression after completing cycles of chemotherapy.

A study on 148 healthy adults showed that their mood improved right after two sessions of Guided Imagery (Watanabe et al., 2006). In one study students who were the targets of bullying, low academic

achievements which are stressful events were given priming tasks and they showed effective decrease in their anxiety and stress (Dannowski et al., 2006). There are number of areas which were studied under the priming paradigm. This includes its effects on memory, visual perception, speech, and perception (Tulving & Schacter, 1990).

There are number of techniques used to deal with stress and when used can make you feel relaxed. Some techniques are purely based on imagination, others include certain repetitive physical muscles relaxation and others are religion oriented which are based on religiosity and spirituality. In this study there are three techniques namely *Zikar Azkar*, Guided imagery and Priming are used to test its effectiveness in dealing with stress. Secondly these are used to find out effectiveness of these techniques in making a person relaxed in the present or current situation. Lastly this study aims to find out the long term effectiveness of these techniques in reducing stress and achieving a prolonged state of relaxation if practiced on a regular basis for a period of one month. This study is designed as pre and post test study to find the effectiveness of these techniques.

Hence, the Objective of the study is to investigate the effects of three relaxation techniques i.e. guided imagery, *Zikar Azkar*, and Priming Technique on reducing stress among students and to examine the technique that can bring about more relaxing effects. It is assumed that, *Zikar Azkar* will be more effective in reducing the stress level and increasing the relaxation state as compared to the guided imagery and priming technique.

Method

Sample

A sample of 51 female Muslim undergraduate BS (Hons) and M.Sc. students of 21 to 26 years age from the different departments of Shaheed Benazir Bhutto Women University Peshawar had participated in the study. These students were randomly selected from the different faculties who claimed to be having higher level of stress level. The sample was based on 60 student's selected 20 in each group but 51 completed the one month practicing of the techniques. The 9 students left the study in between and were not able to complete the study due to a busy schedule and study timings. The participants were Muslims in which most of them belonged to middle class families. This study is an intervention based study and three different types of interventions were used with three different groups of students. One group of 17 students practiced Guided imagery technique; the other group of 17 student participants practiced *Zikar*

Azkar and to the last group of 17 students priming technique was administered. These students participated in both pre-and post-test. All participants were given a form of informed consent in accordance with APA's ethical standards and no participants were excluded for any reason.

Instruments

Smith Relaxation States Inventory 3 (SRSI3). This scale is the revised version of the Smith Relaxation States Inventory and is known as The Smith Relaxation States Inventory 3 (SRSI3). This scale had been developed by Smith and his colleagues in 2000. The Smith Relaxation State Inventory helps in assessing the overall effectiveness of a just-practiced technique.

This scale is divided into 2 Subscale "Subscale SRSI3" and "Subscale SRSI3d". The State Version (SRSI3) has 38 items that asks how one "feels right now" on 6-point Likert scale (1 = "not at all, 6 = maximum). This subscale measures the current relaxation state of the participants. This scale has some items that helps measure 18 Relaxation States (R-States) and other items measure three stress states (somatic stress, worry, negative emotion).

The "subscale SRSI3d" also contains 38 items and it is the Disposition Version that measures how often one experiences Relaxation States and stress states (how many times a day, week, month, and year). This subscale is used in both pre and post test along with SRSI3. The 38 items are measured on 6 points Likert scale (6 = "a lot, more than once a day," 5 = "once a day," 4 = "about once every other day," 3 = "about once a week," 2 = "about once a month, less than once a week," and 1 = "rarely or never, less than once a month).

Perceived Stress Scale. This scale was originally developed by Cohen et al. (1983). The original version consists of 14-item English version of the Perceived Stress Scale and was used to asses stress as a global measure (Cohen, Kamarck, & Mermelstein, 1983). The PSS is one of the most frequently used tools to measure stress in chronic conditions and situations often not listed on other life-event scales, such as the Daily Hassles Scale and Daily Stress. It has a total of 10 items that were selected from the original inventory.

Procedure

In this study there were three groups of Muslim female undergraduate BS (Hons) and M. Sc. students from Shaheed Benazir

Bhutto Women University. The students were approached in their classes after taking permission from their coordinator. These students were briefed about the study and about the interventions. Those who agreed to participate filled their demographics. Keeping their confidentiality they were given time for their session to practice the techniques individually. These students were then randomly assigned to the 3 groups. After their consent these students were first assessed at baseline T_1 that is without giving intervention (guided imagery technique, *Zikar Azkar* and priming technique). The questionnaires, Perceived Stress Scale, and Smith Relaxation States Inventory 3 were used to assess the stress and relaxation level of the students both in pre and post tests. Those whose score was higher in pre test were selected for study as sample and practiced the interventions. Among these groups one group practiced Guided imagery technique, the other group practiced *Zikar Azkar* and third group practiced priming technique. Later these students were assessed T_2 level after 1 month of practicing the techniques by applying the same questionnaires.

In guided imagery and priming technique background music was played while the participants were processing their imagination. Participants were seated in calm and relaxed environment and deep breathing was also done before starting the technique. Participants took 15 minutes on the guided imagery technique, 15 minutes on priming technique and 15 minutes on *Zikar Azkar*. In *Zikar Azkar* there were number of *Zikar Azkar* but for this study participants only listened to *Allah* 99 names and did some other *Zikar Azkar* that included [*Subhan Allah Walhamdulillahwalallaha Illallah Wallahu Akbar*]. In Guided imagery technique participants were asked to imagine a beautiful scene of sea shore in their mind and then guided step by step in their imagination. In the priming technique there were three steps to be imagined. In first step, participants were asked to develop a sense of gratitude towards God and other people. In second step they were asked to pray for those whom they love. In last minutes participants were asked to think about their goals in their life and imagine they achieved it.

Experimenter recorded audio files of the techniques that contain the step by step description of the techniques so it could help participants to practice them on their own while at home by themselves in an environment free of extraneous variables. The *Zikar Azkar* participants were given the *Zikar Azkar* copy while the guided imagery group and the participants in the priming group received Guided imagery and priming techniques audio file copies.

Results

The present study was intended to measure the effects of three relaxation techniques that is, Guided imagery, *Zikar Azkar*, and Priming. It was assumed that, *Zikar Azkar* would be more effective relaxation technique than Priming and guided imagery. Before starting this experimental study the stress and the relaxation level of all the three experimental groups were measured by using Smith Relaxation States Inventory 3 and Perceived Stress Scale. There were no significant differences found between the three groups that is, Guided imagery, *Zikar Azkar*, and Priming relaxation before the intervention on the perceived stress scale that is, [(F2,48) =.720, $p=.492$]. Relaxation States that is, (F2,48)=3.155, $p =.061$] and the Disposition state that is, [(F2,48) = 3.32, $p = .056$].

After the intervention these tests were again administered. It was found that as compared to Guided imagery, *Zikar Azkar* and Priming relaxation technique were more effective in reducing stress (Table 2). Although there is no difference between *Zikar Azkar* and Priming, but mean scores of people who were doing *Zikar Azkar* on Perceived Stress Scale were low as compared to people who were exposed to priming.

For measuring the relaxation level of the participants Smith Relaxation States Inventory 3 was used. This inventory basically measured two aspects of relaxation that is how often people are feeling relaxed and stressful in a particular way from a day to a month (SRSI3d) and other aspect is how people are feeling currently in the present situation (SRSI3). The results in Table 2, indicates that the participants who were doing *Zikar Azkar* were feeling more relaxed as compared to the participants using Guided imagery and Priming. It was also found that the group doing *Zikar Azkar* was experiencing less worries and negative emotions as compared to priming and guided imagery.

The results show a significant difference in the pre and post test scores of the participants both on the Perceived Stress Scale and Smith Relaxation States Inventory 3.

Table 1

Mean Differences between Pre- and Post-test on Perceived Stress Scale and Smith Relaxation States Inventory 3(N=51)

Variables	Pre (n=51)		Post (n=51)		95%CI			Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (50)	<i>LL</i>	<i>UL</i>	
P. Stress	22.86	5.54	17.37	5.11	8.0**	4.11	6.86	1.12
R. State	76.36	23.27	65.6	22.7	6.51**	7.44	14.07	.92
S. State	106.1	21.20	99.97	27.9	3.22**	2.39	10.3	.44

Note. CI = Confidence interval; LL = Lower limit; UL = Upper limit, P. Stress=Perceived Stress, R. State= Relaxation States, S. State= Stress State .
***p* < .001.

Table 2

One way ANOVA and follow up Post Hoc analysis for pair-wise comparison with Bonferroni Correction Factor, showing Mean, Standard deviation, and F-values of participants on Perceived Stress Scale and both subscales of Smith Relaxation States Inventory 3 (N=51)

Variables	1 Guided Imagery (n=17)		2 Zikar Azkar (n=17)		3 Priming (n=17)		<i>F</i>	<i>i-j</i>	<i>MD (i-j)</i>	95 % CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				<i>LL</i>	<i>UL</i>
P. Stress	20.7	5.55	13.8	5.32	16.7	5.59	6.72**	1>2	6.88	2.2	11.55
R. State	78.8	13.3	95.35	15.5	68.9	23.59	9.35*	1<2	16.47*	-31.76	-1.17
S. State	70.2	16.24	43.64	13.7	55.1	22.69	9.43**	3<2	26.7**	11.1	41.7
								1<2	26.64*	11.37	41.92

Note. Between group *df* = 2, within group *df* = 48, group total *df* = 50; CI = Confidence interval; LL = Lower limit; UL = Upper limit, P. Stress=Perceived Stress, R. State= Relaxation States, S. State= Stress State
p* ≤ 0.05, *p* ≤ 0.01

The results indicate significant difference between three groups on the Perceived Stress Scale it was found that *Zikar Azkar* and Priming relaxation technique were more effective in reducing stress as compared to the Guided Imagery. The Table 2 also indicates that people who were doing *Zikar Azkar* were feeling more relaxed and they experience negative emotions less as compared to the participants who were involved in Priming and Guided Imagery.

Discussion

The current study is aimed to analyze and explore the effects of the relaxation techniques on stress and relaxation state of university students. Research findings supported the proposed hypothesis that is *Zikar Azkar* would be more effective in reducing the stress level and improving the relaxation state as compared to the guided imagery and priming techniques.

In the Table 2 result shows that the mean of the *Zikar Azkar* on the perceived stress scale is low. So it is concluded that *Zikar Azkar* is more effective in reducing the stress level as compared to other two techniques i.e. Priming and Guided Imagery although these are also effective and it was also found that *Zikar Azkar* was effective in attainment a of relaxation state as compared to the guided imagery and priming technique. The figure also indicates that participants who were practicing *Zikar Azkar* also start experiencing less worry and less negative emotions as compared to priming and guided imagery. Above literature based studies also supports these results.

Although the other relaxation techniques are also effective in reducing stress but according to the results *Zikar Azkar* is more effective(pre and post test results of *Zikar Azkar*, Guided Imagery and Priming respectively, $t(16)=6.732, p=.000$, $t(16)=4.767, p=.000$), and $t(16)=4.72, .000$) there could be possible reasons. Firstly it could be because it was practiced on a population comprising of all Muslim students, Secondly it could be that it helps us connect to *ALLAH* and we become spiritually stronger. Lastly it could be that these students were having a strong religious insight (*Eman*) and belief (*Aqeedah*) on the Glorifying power of *ALLAH* to be the ultimate source of relieving stress and bringing relaxation in difficult situations.

As explained in a study by Moreira-Almeida and colleagues that there is relationship between religious beliefs and attaining comfort in distressful situation which helps in mental well being (Moreira-Almeida, LotufoNeto, & Koenig, 2006). There could be higher chance that those students who had practiced it on a regular basis at home had found *Zikar Azkar* technique more effective as it is one of the convenient technique that could be done individually in a shorter time period. While the other techniques need a relaxed environment free of confounding variables. There could be another possible reason that *Zikar Azkar* technique doesn't require strong imaginative power of one as compared to Guided imagery and Priming technique which need greater level of imaginative capacity. Similarly higher level of concentration is required for the guided imagery and priming technique than *Zikar Azkar* technique as the first two are imaginative

based technique while the other mostly done in verbal uttering of repeated religious words and phrases.

Social scientists had been working for number of decades to find out the relationship between religiosity and mental health beliefs (Bonelli & Koenig, 2013).

In a study conducted by Rosmarin, Pargament, and Mahoney (2009) found that strong belief of a non-Muslim in problem situation in God can eventually decrease the level of anxiety and stress thus leading to happiness in Muslims and non-Muslims. The Islamic Zikr which is one form of meditation showed immediate and most significant effect on depression, anxiety and stress of participants. Meditation is one way to reduce pain and bring about the physiological, mental, and spiritual benefits for the patients (Lee et al., 2007).

Rosmarin et al. (2009) concluded that remembering God increases the feeling of well-being in psychological and mental dimensions (anxiety, stress, and depression). Power and Brewin (1990) in their study found the effects of emotional priming on patients with generalized anxiety disorder showed positive outcomes. Bargh, Chen, and Burrows, (1996) in their study used some scrambled sentence tasks; the prime concept of being old and then found that walking speed of the participants after leaving the laboratory. The one primed with elderly showed slower speed than the neutral one. This showed that priming can directly affect ones cognitive level and stress level.

Studies showed that Guided imagery with pregnant females who listened to it for 2 to 3 weeks help them in controlling their anxiety, restlessness and prenatal symptoms of depression (Jallo, Bourguignon, Taylor, Ruiz, & Goehler, 2009). According to Chuang and his colleagues study in 2012 established that guided imagery technique was more effective while using background music during its administration on the participants.

Conclusion

The result of the study has indicated that all the three techniques are effective in increasing the relaxation state and reducing the perceived stress level. This study also showed that *Zikar Azkar* was more effective than the guided imagery and priming technique. So it is concluded that by applying the relaxation technique for a consistent period of time with controlled environment, free of extraneous variables the stress level can be reduced.

Limitation

1. Although all the three techniques were effective but still some extraneous variables needed to be controlled like some students were not having lunch or breakfast.
2. The sample was only based on female students; both genders should be included for more generalized results.
3. Samples were only collected from educated population, the uneducated population was excluded.
4. Sample was only collected from students, the mentally unhealthy individuals from clinical area was not included.

Recommendations

1. In order to increase the generalizability of the research findings both gender should be included as a sample of population should not only focus on a single gender.
2. Further research efforts are needed to find out gender differences regarding the three techniques.
3. Techniques should be applied to clinical sample as well for other psychological disorders and social phenomenon in order to find out its effectiveness and alternatively it may become a part of the treatment plans.

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