

Clinical Trial Register

Study Protocol

Brief title

Brief Mindfulness-based Intervention for Indonesian Teacher in Rural Area

Scientific title

Investigating the Influence of Mindfulness-based Intervention on Teachers' Stress and Psychological Well-being in Rural Indonesia: a Mixed Method Approach.

Biodata

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Highlights

- The first intervention trial to address stress and psychological well-being among Indonesian teacher in rural area
- The mindfulness-based intervention trial protocol with addition an Islamic perspective/
- A systematic pilot study protocol to assess the effectiveness, feasibility, and implementation of the brief mindfulness use a between-group, randomized controlled (RCT) design.

Abstract

Introduction: Teacher in early childhood education (ECE) in Indonesia is experiencing high intense stress due to work environment, class management, child behaviour problem, and lack administrative support. Stress has also shown negatively impact their psychological well-being, quality of teaching, and to children's' executive function. Research about stress and the effects on teacher well-being is especially lacking for rural schools. They represent a forgotten minority and thus, teacher from rural area need a prompt and direct support in terms of stress management strategies.

Objectives: The purpose of this study is to investigate how mindfulness based-intervention impact on ECE teachers' perceived stress and their psychological well-being. Additional purposes of the study were to determine how the participants of the study described their personal experiences after the mindfulness-based training implementation. This study is designed to be meaningfully significant to the current research on mindfulness in educational setting.

Methods: This study employs mixed methods research using sequential explanatory strategy involves a first phase of quantitative data collection and analysis, followed by a second phase of qualitative data collection and analysis to examine the results in more detail. The first quantitative phase is randomized wait-list controlled trial design (RCT) with an assessment before and after treatment. 4-weeks brief mindfulness-based protocol will be given to 40 teachers as experimental group. 40 other teachers receive wait-list treatment will assign as control group. Measurement of perceived stress level will be using Indonesian version of Perceived Stress Scale (PSS), psychological wellbeing will be measure using Indonesian Well-being Scale (IWS), and mindfulness

traits will be measure using Indonesian version of Five Factor Mindfulness Questionnaire (FFMQ). The second phase is qualitative data collection will be conducted right after the intervention, aims to explore how personal experience during mindfulness-based training, how they perceived stress in pre- and post- training program, to what extent mindfulness affect their personal and work life, and what strategies from mindfulness-based training they feel most beneficial to reduce stress. 8 participants will purposively select for 1:1 semi-structured interview based. Data analysis using MANOVA and ANOVA to measure the differences between groups and within groups for all tests and constructs measured. Thematic Analysis (TA) will be used to explore detail examination of participants' personal experience during implementation of mindfulness in their work and daily life.

Keywords: brief mindfulness, perceived stress, psychological well-being, mindfulness, teacher, rural area.

Abbreviations

ECE = Early Childhood Education

PSS = The Perceived Stress Scale

IWS = Indonesia Well-being Scale

FFMQ = Five Facet Mindfulness Questionnaire

Investigating the Influence of Mindfulness-based Intervention on Teachers' Stress and Psychological Well-being in Rural Indonesia: a Mixed Method Approach.

1. Background

Teaching is one of the most stressful and high-demanding occupations (Haydon, Leko, & Stevens, 2018; Geng, Midford, & Buckworth, 2015; Gong, Niu, & Wang, 2020). A study found that from 2002, 2011 to 2016, the professional pressure of basic education teachers, including some preschool teachers, has gradually increased (Xu, 2017). According to Education Support (2019), 34 % of educators in the UK experienced psychological issues in the academic year, and 57 % of respondents have considered leaving the educational profession due to physical and psychological pressure. A study conducted by the University of Missouri in 2018 found that 93% of 121 elementary school teachers report they are highly stressed (Herman & Reinke, 2018). Meanwhile, based on a survey of 150 preschool teachers in Romania, 42.0% were "very stressed," and 86% had intermediate to advanced stress levels (Clipa & Boghean, 2015). Another study based in China showed that 24,9% of 302 preschool teachers felt severe or extreme stress (Wang *et al.*, 2015). Although there is currently no empirical research in Indonesia for direct comparison, it is generally believed that early childhood teachers face younger children while caring for childcare and education work at the same time, and their professional pressure is more significant than primary and secondary school teachers (Tsai *et al.*, 2006). The results of a study involving a small sample in the Banyuwangi area, Indonesia, found that 51.5% of teachers have a high risk of stress (Perwiraningsih, 2020). Meanwhile, one study focusing on teachers' stress in Yogyakarta found that teachers' stressors vary substantially, ranging from work demands to their personal lives (Khilmiyah, 2012).

Research indicates that teachers with a high level of stress and struggle to cope with that stress are more vulnerable to emotional exhaustion, feeling unaccomplished, and have low self-efficacy (Cui *et al.*, 2018; Geng, Midford, & Buckworth, 2015). In turn, these negative stress responses are associated with a decrease in teacher performance (Collie, Shapka, & Perry, 2012;). Teachers having high stress may act more reactively and depend on more punitive, less sensitive methods that discourage students from managing their own emotions and behavior, thus create an emotionally disturbed climate in the classroom (Friedman-Krauss, Raver, Morris, & Jones, 2014).

Considering the influence of teacher-child interaction on early childhood development and the potential harm that excessive stress of teachers might have on those interactions, it is essential to investigate the coping skill that can decrease teachers' stress levels. In Indonesia, numerous studies so far focus on how teachers' stress affects them and their stress management (Putranto, 2013; Nasution & Rafida, 2019; Pratasiwi, 2017; Farista, 2018). There is a scarcity of published research on teacher stress in rural areas of Indonesia and how to manage it using strategies from standardized protocols.

Identifying the effect of mindfulness-based practice on stress and well-being would aid in our understanding of the unique needs of this population. Numerous studies on mindfulness have been conducted in Indonesia across teacher populations (Maharani, 2016; Rahmawati *et al.*, 2020; Wilani *et al.*, 2021); however, these initial studies were not well designed. Some of the design flaws included lack of control groups, small sample sizes, and inadequate evaluation of treatment integrity. Although researchers have shown increasing interest in mindfulness-based research, there are still questions about how mindfulness can be used in vulnerable populations and the mechanisms of action by which mindfulness can bring about desired health outcomes in these populations (Li, 2017). According to Chin, Anyanso, and Greeson (2019), it is

unclear how mindfulness research can be generalized to a greater, more diverse population. More research is needed to fill the gap in the discussion of mindfulness among underrepresented groups. Recent studies also show the importance of developing a culturally responsive mindfulness-based intervention for a diverse population (Watson-Singleton & Spitvey, 2019). This finding is in accordance with Manotas (2012), who emphasized the importance of conducting mindfulness training across different cultures.

According to one meta-analysis study, recent investigations are narrow in their focus and do not capture the full experience of individuals receiving mindfulness training (Goyal et al., 2014). The need for a study with deep and rich qualitative data on participants' perceptions and how valuable they think it is for themselves is often unrecognized in the literature. While various quantitative measures provide essential information and are used in this study, they cannot capture the actual usefulness of mindfulness training for their real life. This research aims to achieve both of these aspects practically and ethically.

The purpose of this study is to explore how mindfulness practice can affect the lives of teachers in rural areas. More qualitative research is needed to overcome the historical lack of regard for rural people and places to facilitate a better understanding of rural education (Roberts & Cuervo, 2015). There has been some emergence of rural research in publications such as *Journal of Research in Rural Education and Rural Educator* in recent years, but most research, such as dissertations, rarely receive much interest; there needs to be an effort to cultivate more relevant research in the realm of rural education (Howley, Howley, & Yahn, 2014). Through a qualitative study, data will be obtained to provide a more in-depth understanding of how mindfulness contributes to an environment with many constraints.

2 Research Objectives, Research Questions, and Hypotheses

2.1 To measure the effectiveness of Mindfulness-based training in reducing perceived stress and improving the psychological well-being and mindfulness of Early Childhood Education (ECE) teachers in rural areas

Quantitative research questions and hypothesis developed to answer the objective are:

1. How does training mindfulness-based strategies for ECE teachers impact:

- a) Perceived stress level as measured through the Perceived Stress Scale (PSS) by (Cohen, Kamarck, & Mermelstein, 1983)

H1: Perceived stress would significantly decrease in the participant's group of the experiment from pretest to post-test

H2: The experimental group's perceived stress level is lower than the control group after four weeks of intervention

- b) Psychological well-being as measured through Indonesian Well-being Scale (IWB) by Maulana *et al* (2019)

H3: Psychological well-being would increase significantly in participants group of experiments from pretest to post-test

H4: The experimental group's psychological well-being is higher than the control group's after four weeks of intervention

- c) Mindfulness as measured through the Five-Factor Mindfulness Questionnaire (FFMQ) by Baer *et al.* (2006)

H5: Mindfulness would increase significantly in participants group of experiments from pretest to post-test

H6: The experimental group's mindfulness is higher than the control group's after four weeks of intervention

2.2 To explore participants' experience and meaning towards Mindfulness based-intervention

Qualitative research question developed for this research objective:

2. How did participant interpret their inner experiences during and after the four weeks of mindfulness-based intervention?
3. From participants' perspective, what are the most effective mindfulness-based strategies teachers can implement to reduce stress and enhance their well-being?
4. To what extent do participants' stress and well-being change upon completion of four weeks of mindfulness-based intervention?

3 Methodology

3.1 Research Design

This study will employ mixed methods research using a sequential explanatory strategy. The sequential explanatory approach involves the first phase of quantitative data collection and analysis, followed by the second phase of qualitative data collection and analysis to examine the results in more detail (Creswell, 2009). The study utilized an experiment, randomized wait-list controlled trial design with an assessment before and after treatment for the first stage. These measures allowed for the detection of changes over time (pre-post) in the experiment group while statistically controlling for within-subject effects and the mean difference between group (control and experiment).

The second stage of the study will use a phenomenology study (see Appendix D for research design workflow). Phenomenology may be the best method when a researcher wants to study what an experience means to a particular group of people (Grossoehme, 2014). One of the objectives of this study is to capture individual experiences during mindfulness training; therefore, the phenomenological study is the most appropriate design.

3.2 Population and sample

This study is developed for voluntary participation among ECE teachers in Bantul, Yogyakarta. Bantul is one of the districts in Yogyakarta, Indonesia, which has the largest area (506,850 km²). Some of these areas are difficult to reach and have very low population density, hence considered representative as rural areas. Bambanglipuro and Pandak sub-districts are selected because of their rural area and representativeness of the Bantul population (see table 1).

Table.1 Indicator Regarding Teacher Characteristics in Bantul-district, Bambanglipuro-sub-district, and Pandak-sub-district

Indicators	Bantul	Bambanglipuro	Pandak
Number of schools	264	17	22
The average number of full-time in-service teachers per school	7,2	6,7	6,9
Teacher-student ratio	1: 13	1:14	1:14

Considering the geographical characteristics of the Bantul area and research needs, the sampling technique that will be used in this study is a combination of cluster and purposive sampling. Within each of the two sub-districts, 5/17 kindergarten from Bambanglipuro and 7/22 kindergarten from Pandak will be randomly selected, and

teachers in these schools are considered the accessible population. In other words, the schools served as clusters, and all teachers within the randomly selected clusters (schools) who met the selection criteria will be invited to voluntarily participate. The entire teaching staff at the 12 selected schools will be invited to participate. An email containing a written explanation and a short video presentation will be sent to all schools, along with a questionnaire to measure stress levels and an informed consent link for teachers who are willing to participate.

The inclusion criteria for current research: (a) minimum two years of work experience, (b) minimum 25 years of age, (c) scoring Moderate (total score 14-26) to High (total score 17-40) perceived stress on PSS-10, while the exclusion criteria are: (a) have received any form mindfulness training prior and (b) Have ever been diagnosed with chronic stress or other related mental disorders such as anxiety and depression. Additionally, this research will involve participants at the managerial level to ensure a sustainability effect. The principal, administrative staff, or school committee will be invited to participate in the training. However, because their participation is not considered representative, they will not receive a pretest and posttest.

Based on G*power analysis and the review of literature on prior studies done on brief mindfulness (Reardon, 2012), recommend a sample size of 34 participants. A more recent review of MBSR studies found an overall attrition rate of 15% among MBSR studies (de Vibe et al., 2012), resulting in a total of 80 participants will be enrolled in the current study, with 40 participants for control group and 40 participants for experiment group. Each group will be devided into 2-3 cohorts consist of 15 participants. The use of small group samples is also consistent with the perspective of mindfulness practitioners, who emphasize the importance of group processes to build trust and reduce barriers among group members (Griffith, Bartley, & Crane, 2019).

3.3 Data Collection Procedure

In the first phase, the intervention will be employed consists of 4 weeks of mindfulness training. Participants will randomly be assigned to either an experimental or a wait-list control group. Participants in the experimental group receive mindfulness training in a two-hour class per week for four weeks. The mindfulness intervention protocol in this study is an adaptation of the module used by Manotas (2012) with the addition of psychospiritual elements and characteristics of the Indonesian population. Psychospiritual care is a series of spiritual approaches modified by the researcher to improve emotional regulation, make sense of their life and always be grateful and feel closer to God.

During four weeks of intervention, participants will be engaged in open awareness exercises, body awareness exercises, introduction and practice of meditation, discussion, and review homework over the course of four weeks. Each activity aims to cultivate the mindfulness ability described by Bishop (2004) as self-regulation of attention while remaining focused on the present moment experience, as well as an attitude of curiosity, openness, and acceptance without biasing mental reaction or judgment. The training also included an educational component with the integration of psychospiritual values and homework assignments (See Appendix F for intervention outline). The final mindfulness training session will conclude with a follow-up plan, with the goal of providing participants with new stress-management strategies in the future.

Additionally, participants are given a mindfulness recording and instructed to practice mindfulness for 45 minutes daily by following the recording's instructions. Field noted, log book, and reflection will be given to participants to record their personal experiences. Participants will have the option to participate in a different time slot each week due to the nature of their schedules and the fact that they could not

complete the training during work hours. Four distinct time slots will be available weekly. The intervention will continue to be delivered in the form of groups, although with different participant combinations in each session.

With the exception of the daylong retreat, the class included all of the components described as part of MBSR training. The training will be led by a certified facilitator who has a Master's degree in Psychology and Counseling, certified MBSR teacher, and has been practicing formal mindfulness for over ten and seven years. Two facilitators will be available to guide participants through the four-week sessions. Each facilitator will take up two of the four available time slots each week.

Quantitative data will be collected to measure whether the mindfulness-based intervention has an impact on stress, well-being, and mindfulness among participants. The three questionnaires combined into a single Qualtrics survey, which can be completed on mobile devices such as smartphones and laptop computers. Paper versions will also be available for those who could not bring a device. The informed consent form will be included as the first part of the questionnaire. This data collection will serve as a pretest, administered prior to the training session.

After the last session in the fourth week, participants will also be given more time so they could complete the post-test questionnaire on Qualtrics as a post-test. Additionally, participants will be asked if they are willing to be interviewed individually following the training. Only volunteers will be included in the following phase of qualitative data collection. Furthermore, control group participants will receive the same four-week mindfulness training within two weeks after the experimental group completed its intervention. No post-test will be given to these participants.

The second qualitative phase is conducted to understand the participants' experiences of attending mindfulness-based intervention and to better understand the quantitative findings (Creswell, 2009). Eight participants will be included, as

recommended by Andrew and Harry (2015), for a small project using thematic analysis. In this phase, follow-up using in-depth interview focus on the exploration of personal experience during mindfulness-based training, how they perceived stress in a pre-and post-training program, to what extent mindfulness affects their personal and work life, and what strategies from mindfulness-based training they feel most beneficial to reduce stress. All field notes, log book, reflections that has been filled during intervention will be used as an additional data source to deepen the interview data in the qualitative stage. Furthermore, synthesizing analysis will be focusing on interpretation from the data that has been collected to corroborate both quantitative and qualitative results. Figure 1 illustrates the two phases of this research.

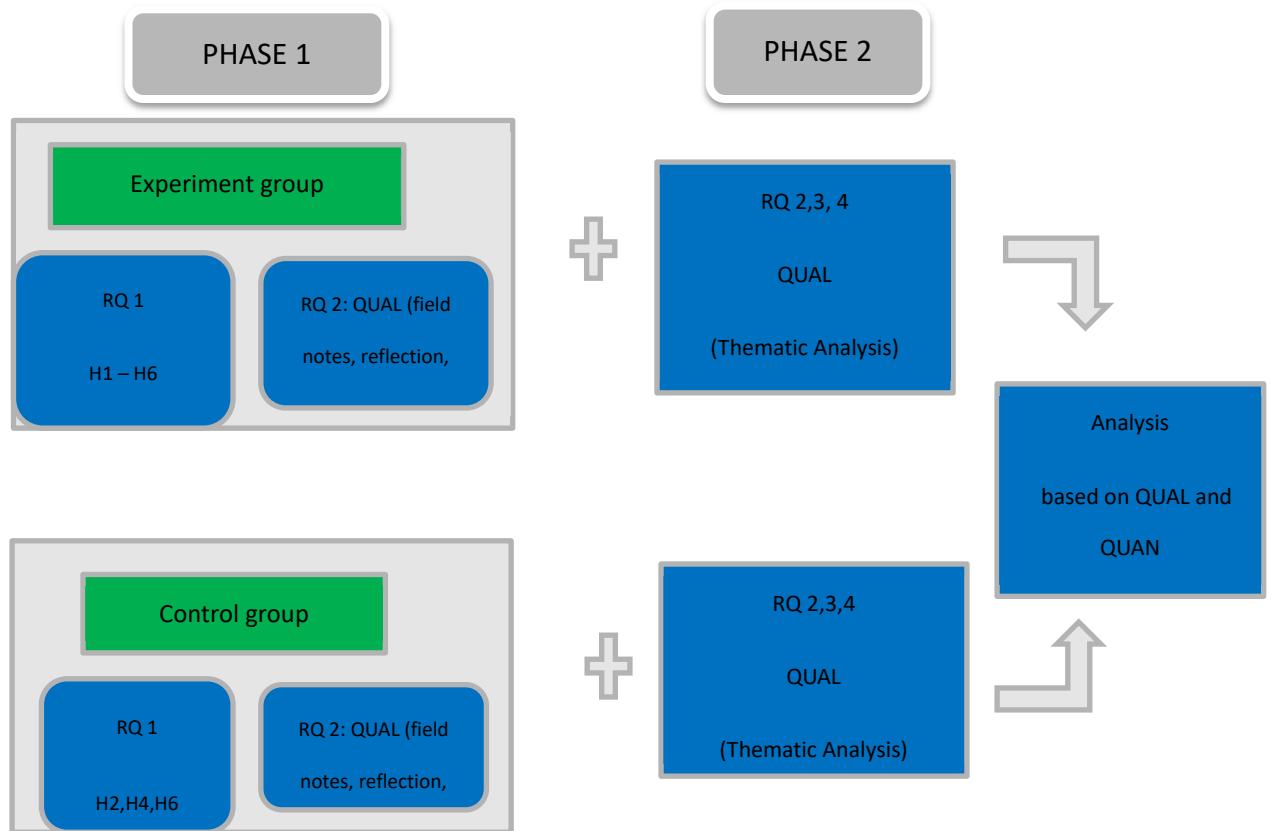


Figure 1. graphically represents the data collection and analysis process.

3.4 Analysis Plan

The purpose of including a quantitative data approach in the present study is to investigate the influence of the mindfulness-based intervention on teacher's stress and well-being. The Statistical Package for the Social Sciences (SPSS), Ver. 24.0 will be used to analyze the data. The multivariate analysis of covariates (MANCOVA) is used to identify any statistical differences between the groups for the two Dependent Variables as primary outcomes (stress and well-being) from time effect (pretest to post-test) and group effect (experimental and control group). Additionally, covariates (age, level of education) will be included in the analysis to examine if these factors have significant interaction with the dependent variable. If MANOVA resulted in statistical significance, an ANOVA would be performed for each of the two variables. Then, a two-way analysis of covariates (ANCOVA) will be employed to look at the difference between time (pretest-posttest) and groups (experiment and control) with respect to the variable of mindfulness. The covariates will also be included in the final analysis.

The rationale for using qualitative data in the present study is to gain a deeper understanding regarding participants' experience and meaning towards mindfulness based-intervention. Qualitative data will be analyzed using Thematic Analysis (TA) consistent with Braun and Clark (2006) protocol: 1) familiarizing with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report.

3.5 Ethical Consideration

Increased mindfulness can lead to greater awareness of one's thoughts and emotions. Participants may have become aware of unpleasant or difficult feelings. Participants are taught to accept and examine their thoughts in a non-judgmental

manner as part of the mindfulness intervention. In cases where the subjects feel overwhelmed by these thoughts or feelings, they will be given resources to help them learn additional coping strategies. Participants also have access to the group therapist's assistance in dealing with insights that arose as a result of the mindfulness activity. All participants from the control group will receive the exact same treatment after the completion of post-test measurement. This is to ensure they receive the same benefits as participants in the experimental group.

Participants will be informed that their participation in this study is entirely voluntary and that they could choose to withdraw at any time without penalty. All information gathered from participants will be kept strictly confidential and not associated with the participants. According to APA guidelines, all protocols and research material will be kept for five years. Research ethics will be submitted to IIUM Research Ethics Committee (IREC) and Ahmad Dahlan University (UAD) Yogyakarta Research Ethics Committee upon proposal approval.

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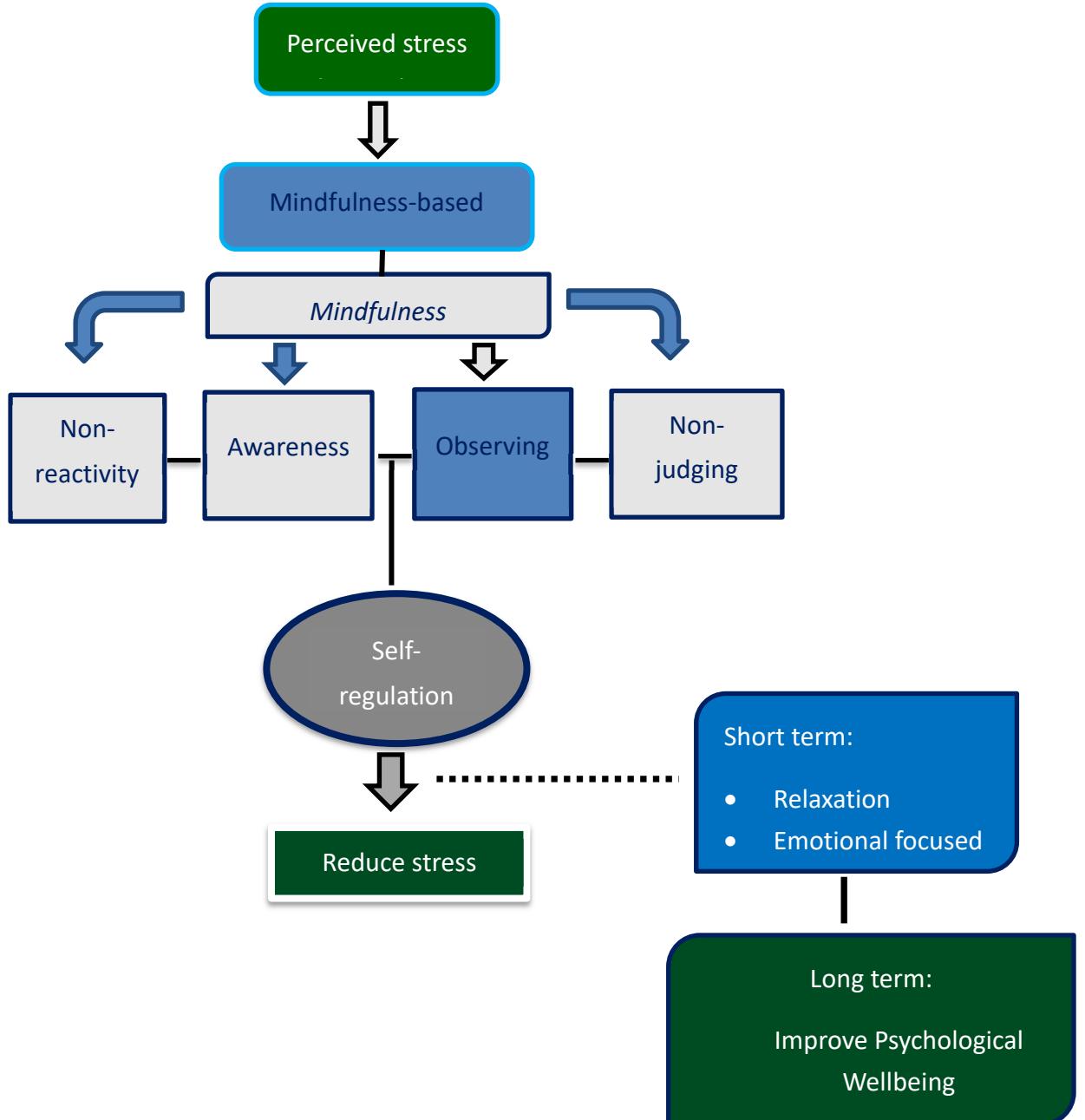
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Appendix A

Conceptual Framework



Appendix B

Theoretical Framework Psychological Stress

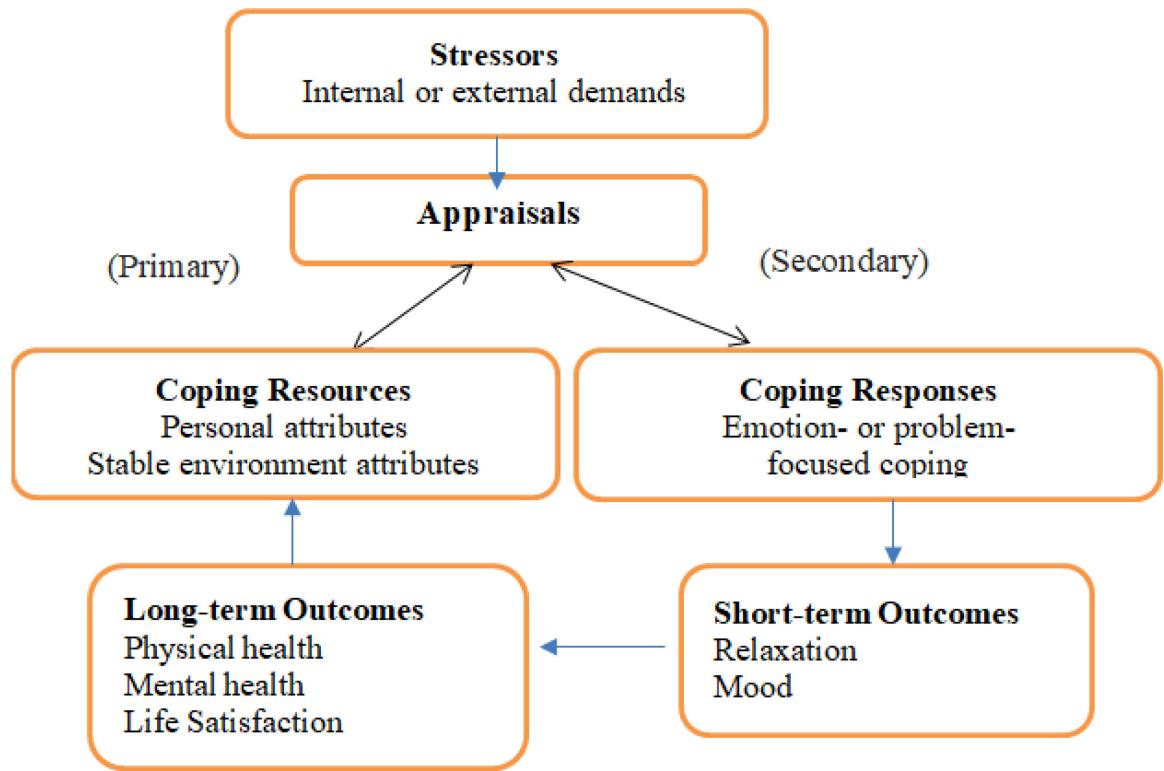
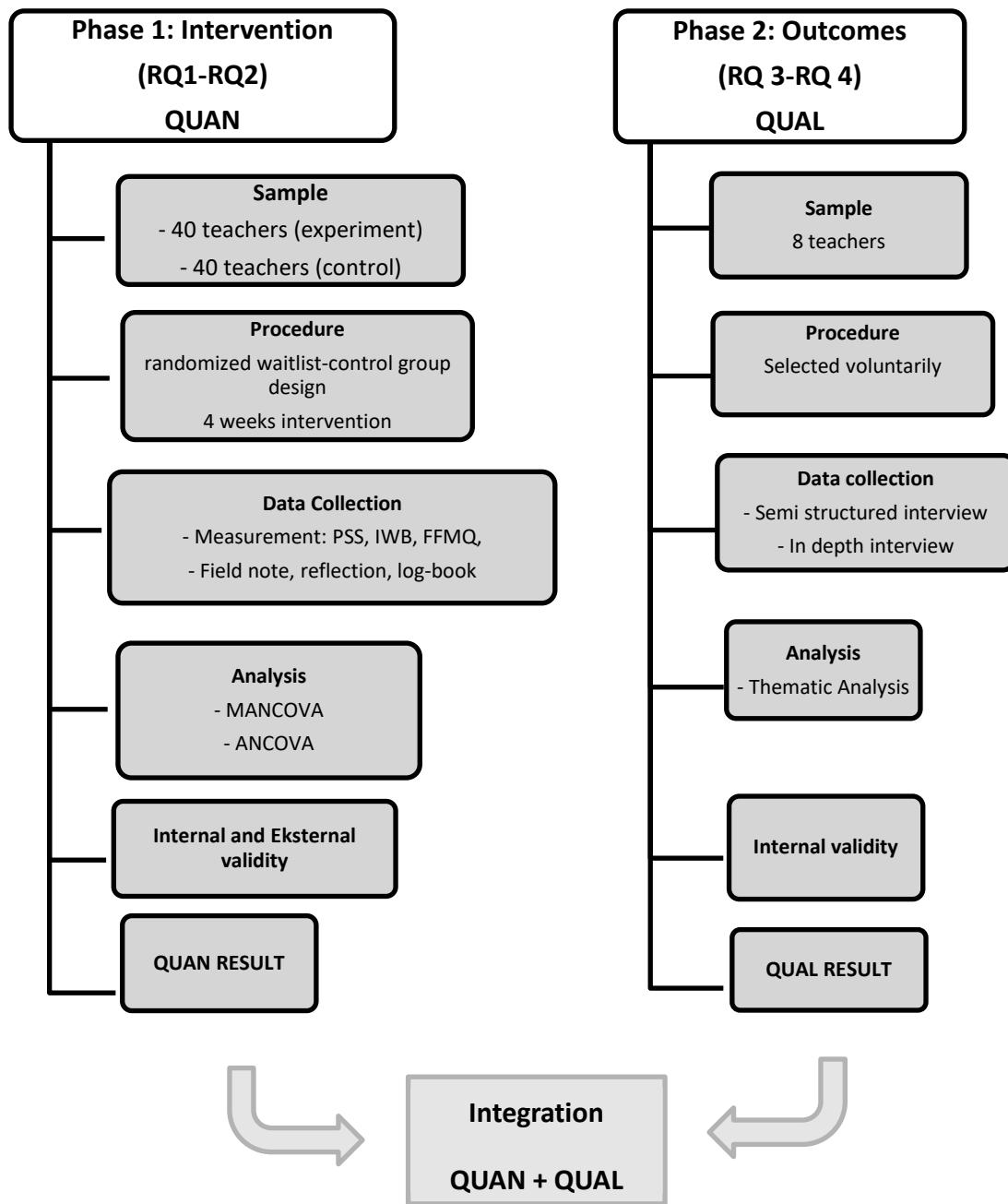


Figure 3. Transactional Model of Stress and Coping

(Lazarus & Folkman, 1984)

Appendix C

Mixed Method Workflow



Appendix E

Semi-Structured Interview

Welcome and introduction

- Appreciation for sharing thoughts about mindfulness-based training
- Introduction
- Why and how
 - We are trying to understand the unique experience from each participant and make an effort to improve the intervention
 - Please share your point of view
 - No right or wrong answer
 - We equally welcome positive and negative feedback
 - Audio recording usage
 - Anonymity assurance

1. Can you tell me about your experience following mindfulness training?

Suggested probes: *what kind of sensation that arises? How did that feel in your body? How did you interpret symptoms? Why do you think symptoms appeared at that time in your life? What was going on in your mind then?*

2. How is your experience change during 4 weeks intervention?

Suggested probes: *how is it different between week 1 until week 4? What do you think practicing mindfulness with facilitator and independently? Have you notice any physical or emotional reaction over time? What challenge you in practicing mindfulness?*

3. What strategies did you think the most effective?

Suggested probes: *What did you think could help you better at that time? Why? what prevent you from practicing other strategies? What did you think should be done to help you overcome your problems?*

4. What was most helpful about this training, and why?

Suggested probes: *Was there something you learned in the course that was helpful?*

Could you give an example from your experience? Was there a specific activity that you found most helpful?

5. How do you think mindfulness impact your life?

Suggested probes: *how would you know you have recovered from stress symptoms?*

How you incorporate mindfulness practice into your life? How would you see your life afterwards?

6. After going through this mindfulness intervention, what is your understanding of how it works to improve your health?

Suggested probes: *Could you give an example from your experience? Have you seen changes in your performance? If yes what do you attribute to causing these changes?*

Appendix F

Intervention Outline

Session	Component	Activity
Week 1	Mindfulness overview	<ul style="list-style-type: none"> • Introduction • Open discussion on experience • Yoga introduction • Mindful eating • Body scan • Body scan discussion
Week 2	Challenges to mindfulness	<ul style="list-style-type: none"> • Body scan • Meditation discussion • Shared obstacles and difficulties discussion • Introduction to breath meditation
Week 3	Mindfulness as stress management	<ul style="list-style-type: none"> • Short breath meditation • Formal sitting meditation • Self-gratitude meditation • The act of loving-kindness • Introduction to mindful of habits talk
Week 4	Mindful communication	<ul style="list-style-type: none"> • Sitting meditation • Mindful communication exercise • Large group discussion on mindful communication • Continuing the practice and action plan • Pulling it all together: Be here now, direct attention, accept and calm step back, befriend with difficult

Table 2. Mindfulness-Based intervention adapting by Manotas (2013)

Objectives:

- The first week aims to provide basic knowledge about mindfulness and exploration of participants' previous experiences related to automatic pilot and mindlessness conditions. This first session will also introduce some simple exercises related to the skills cultivated by mindfulness i.e, observing and non-judging
- In the second week, participants will be given other mindfulness practices and identify difficulties that may be experienced.
- The goal of the third week is to practice various mindfulness meditation techniques, which also contain the psychospiritual values of surrender, gratitude, and kindness.
- In the fourth week, participants will practice communicating with awareness as well as other mindfulness applications in daily life. This session will also encourage participants to make follow-up plans in using the mindfulness strategies that they have learned. In the closing session, participants will practice skills related to mindfulness in their daily life.