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# Mindfulness Meditation to Reduce Nurse Burnout: An EBP Implementation Project

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Mindfulness Meditation to Reduce Nurse Burnout: An EBP Implementation Project

A Paper Submitted in Partial Fulfillment of the Requirements

For NURS 5382: Capstone

In the School of Nursing

The University of Texas at Tyler

by

Lester Jay Denson, BSN, RN

August 6, 2023

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### **Acknowledgments**

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### **Executive Summary**

Hospitals across the United States are suffering from poor staffing (American Nurses Foundation, 2021). A common thread throughout those facilities is that nurses are leaving their jobs due to self-reported burnout, contributing to the staffing shortage and low morale (Shah et al., 2021).

Mindfulness training plays a part in decreasing emotional exhaustion for staff nurses. A reduction of emotional exhaustion has been discovered after the implementation of mindfulness-based intervention programs, with continued improvement after completion of the program (Sarazine et al., 2021; Bianchini & Copeland, 2021). The benefit of this implementation would be a reduction of nurse burnout which ultimately affects nurse turnover. The cost of RN turnover ranges from \$40,200 to \$64,500 per RN (Gamble, 2022).

A change project was implemented with a cohort of 10 acute care travel nurses working in a variety of locations, who are experiencing symptoms of burnout and job dissatisfaction. The participants performed a self-guided mindfulness meditation or breathing exercise intervention prior to the beginning of each shift, for 10 weeks.

The nurses completed the Copenhagen Burnout Inventory prior to implementation and post-implementation. Pre-implementation survey results revealed a moderate incidence of burnout. The pre- and post-implementation survey results were compared and a reduction in burnout was noted by a decrease in the overall mean scores of the survey results. These findings indicate that this project implementation was successful and a reduction in the incidence of burnout was revealed.

Because there is a potential to decrease perceived stress levels, healthcare organizations must prioritize nurses' access to mindfulness-based interventions (Bianchini & Copeland, 2021).

### Mindfulness Meditation to Reduce Nurse Burnout: An EBP Implementation Project

Patient centeredness and patient preferences are key components of evidence-based change. Nurse burnout, when left unchecked, can lead to poor patient outcomes, including a decrease in quality care, a decrease in patient safety, and medication errors (Dall'Ora et al., 2020). Through the implementation of a mindfulness-based intervention, burnout may be reduced, contributing to nurse effectiveness, clinical safety, and the participation in patient-centered care activities which promote a positive patient-provider relationship and overall patient satisfaction (Halm, 2017). Therefore, arises the question, in acute care nurses with self-reported burnout symptoms (P), how does a mindfulness meditation intervention (I) compared to no intervention (C) affect self-reported burnout symptoms (O), in 10 weeks (T)?

#### **Rationale for the Project**

Mental health is vital for everyone. However, nurses' mental well-being can be overlooked or stigmatized, first by nurses themselves and then by their family, coworkers, and their employers (American Nurses Foundation, 2021). Nurses tend to focus on patients and put aside their own health and well-being (Halm, 2017). Therefore, investigating and finding evidence to support a solution to help minimize or eliminate acute burnout symptoms could improve nurse job satisfaction and contribute to better care and outcomes for patients (Halm, 2017).

In 2018, the National Sample Survey of Registered Nurses (NSSRN), conducted by the United States Department of Health and Human Services' Health Resources and Service Administration revealed that 31.5% of nurses reported leaving their job in 2017 (n = 418,769) due to burnout (Shah et al., 2021). In addition, American Nurses Foundation's Mental Health and

Wellness Survey Report indicated that 52% of intensive care nurses and 40% of acute care nurses reported that they were “not or not at all emotionally healthy” (2021, p. 2, Figure 2.).

Hospitals across the United States are suffering from poor staffing (American Nurses Foundation, 2021). A common thread throughout those facilities is that nurses are leaving their jobs due to self-reported burnout, contributing to the staffing shortage and low morale. Other factors contributing to nurse burnout in these facilities may include increased patient acuity, nurse-to-patient ratios, mandatory overtime, and a lack of ancillary help (Shah et al., 2021).

This inquiry into the chosen clinical issue aims to best identify solutions from the literature that impact nurse burnout to improve patient outcomes.

### **Literature Synthesis.**

A review of the literature identified that mindfulness-based interventions have an impact on staff nurses’ burnout symptoms including emotional exhaustion, depersonalization, stress, and personal accomplishment.

Implementing a mindfulness-based training program in the workplace will help reduce levels of burnout and anxiety as well as improve job satisfaction among nurses, allowing nurses to work more healthily (Suleiman-Martos et al., 2019; Ghawadra et al., 2019; Slatyer et al., 2018). An increase in personal accomplishment and job satisfaction, and a decrease in emotional exhaustion, stress, and anxiety were revealed from the studies (Suleiman-Martos et al., 2019; Ghawadra et al., 2019; Slatyer et al., 2018; Yildirim & Yildiz, 2022) (see Appendix A).

Mindfulness training plays a part in decreasing emotional exhaustion for staff nurses. A reduction of emotional exhaustion has been discovered after the implementation of mindfulness-based intervention programs, with continued improvement after completion of the program (Sarazine et al., 2021; Bianchini & Copeland, 2021) (see Appendix A).

Positive effects on depersonalization were seen across multiple studies. Improvement in depersonalization scores was noted for nurses who participated in mindfulness-based interventions (Sarazine et al., 2021; Bianchini & Copeland, 2021; Suleiman-Martos et al., 2020). Improvements in nurses' overall psychological well-being were seen with mindfulness-based intervention participation (Sulosaari et al., 2022; van der Riet et al., 2018; Yildirim & Yildiz, 2022) (see Appendix A).

Mindfulness-based interventions are effective in assisting nurses to cope with stress. Enhanced distress tolerance and resilience in participants were noted (Lin et al., 2019; Motaghedi et al., 2016). An improvement in perceived stress levels was also discovered upon completion and over time following participation in a mindfulness-based intervention program (Anderson, 2020; Bianchini & Copeland, 2021; Ghawadra, 2020; and Green & Kinchen, 2021; Yildirim & Yildiz, 2022) (see Appendix A).

### **Project Stakeholders**

The stakeholders for this project include the nurses, ancillary staff, nurses' family members, patients, physicians, mid-level practitioners, nursing leadership, human resources, and hospital systems. The family members and coworkers are directly affected because utilizing mindfulness-based interventions can improve the overall psychological well-being of the nurse, which in turn improves the home and working environment. The hospital systems, human resources, and nursing leadership are affected because utilizing mindfulness-based interventions can decrease nurse burnout, exhaustion, and ultimately costly turnover. All stakeholders can benefit from the effects of mindfulness as it relates to a reduction in nurse turnover.



### **Implementation Plan**

Prior to the implementation, engagement with acute care travel nurses, from different facilities, via Zoom occurred. A brief education about the possible positive effects of mindfulness meditation and a discussion of the project plan including Week 1 through Week 12 will occur at this time. The final cohort size of 10 acute care travel nurses was determined following the Zoom session (See Appendix B).

The 10 travel nurses were invited via email to participate in a pre-implementation survey in Week 1, to obtain a baseline of self-reported burnout symptoms, job satisfaction, depersonalization, and ability to cope. The participants had one week to complete the survey. A follow-up email was sent on day 3 to request survey completion within 7 days of the original request (See Appendix B).

Week 2 was the first week of mindfulness intervention. The participants began performing a self-directed mindfulness activity, meditation, or breathing exercise for 3 to 5 minutes in self-designated location prior to each shift. Beginning this week, weekly emails or text messages were sent out to each participant to ensure participation, answer questions, and maintain open lines of communication between myself and each participant. Mindfulness activities continued prior to every worked shift through Week 11 of the project implementation (See Appendix B).

At the beginning of Week 7, which was the mid-point, a Zoom session was held to discuss any challenges associated with participation or compliance of the mindfulness intervention and to re-energize buy-in of the intervention, to encourage completion of the project (See Appendix B).

The final week of the mindfulness intervention was Week 11. During the 12<sup>th</sup> week, the participants completed the CBI again, via email. The participants were given one week to complete the post-implementation survey. A follow-up email was sent on day 3 of this week to remind participants to complete the post-implementation survey by day 7 of week 12 (See Appendix B).

### **Timetable**

January 2022	Problem Identified
January 2022 to May 2023	Literature Review/Solution Identification
May 2022 to May 2023	Discussions with Travel Nurses
May 7, 2023	Education & Overview of Project via Zoom
May 14, 2023 to May 20, 2023	Week 1: Pre-Implementation Survey
May 21, 2023 to July 22, 2023	Week 2 through Week 11: Implementation & Weekly Check-in via Text <ul style="list-style-type: none"> <li>• Week 7: Mid-Point Check-in via Zoom</li> </ul>
July 23, 2023 to July 29, 2023	Week 12: Post-Implementation Survey
July 30, 2023 to August 5, 2023	Dissemination

Table 1. Timetable.

### **Data Collection Methods**

A pre-implementation survey was sent to the cohort to obtain a baseline of self-reported burnout symptoms, job satisfaction, depersonalization, and ability to cope. The Copenhagen Burnout Inventory (CBI) was conducted (Kristensen et al., 2005). This 19-item, 5-point Likert scale was administered via email. The CBI consists of 3 subscales measuring personal, work-

related, and client-related burnout. High mean scores indicate the presence of burnout symptoms. The participants had one week to complete the survey.

In the final week the participants completed the same 19-item, 5-point Likert scale, CBI again to evaluate and compare the results from pre- and post-implementation of the mindfulness intervention. The participants were given one week to complete the survey.

After receipt of post-implementation survey results the individual item mean scores as well as the mean scores for each subscale were analyzed. A decrease in the mean scores for each of the subscales indicates improvement in personal, work-related, and client-related burnout. After completion of the project and after comparison of the pre- and post-implementation survey results, the overall findings were presented to the participants. The overall findings are useful in determining whether mindfulness interventions should be incorporated into a nurses' pre-shift routine.

### **Cost/Benefit Discussion**

Initial costs for this change project include hours spent gathering and evaluating the data and communicating with the nurses initially, weekly, and post-implementation. The cost of this would be dependent on nurse educator pay at the conducting facility. The average hourly wage for RNs in the United States in 2022 was \$39.78 (Robertson, 2022). Once the project implementation is underway, the ongoing costs will be minimal since the intervention is self-directed and performed prior to shift. Additional education meetings, and routine follow up by the nurse educator would be conducted at nurse educator hourly pay. The benefit of this implementation would be a reduction of nurse burnout which ultimately affects nurse turnover. The cost of RN turnover ranges from \$40,200 to \$64,500 per RN (Gamble, 2022).

### **Discussion of Results**

Ten acute care travel nurses began this project and completed the pre-implementation survey. Two were lost due to non-participation and conflicts with work-life balance prior to the midpoint. Of the remaining eight, one participant was excluded due to not completing the post-implementation survey and loss of communication. Seven nurses completed the post-implementation survey. The mean scores of the individual survey items, along with each subscale were calculated pre- and post-implementation. Pre-implementation survey results revealed a moderate incidence of burnout (See Appendix C). The pre-implementation and post-implementation survey results were compared and a reduction in burnout was noted by reduction in the overall mean scores of the post-implementation survey results (See Appendix C). These findings indicate that this project implementation was successful and a reduction in the incidence of burnout was revealed.

### **Conclusions/Recommendations**

Implementing a mindfulness-based training program in the workplace will help reduce levels of burnout and anxiety as well as improve job satisfaction among nurses, allowing nurses to work more healthily (Ghawadra et al., 2019; Slatyer et al., 2018; Suleiman-Martos et al., 2019;). Symptoms of burnout can be reduced through use of mindfulness-based interventions. Reduction of burnout symptoms is necessary to preserve the mental well-being of nurses, improve patient outcomes, and improve retention to reduce the number of nurses leaving the workforce. Because there is a potential to decrease perceived stress levels, healthcare organizations must prioritize nurses' access to mindfulness-based interventions (Bianchini & Copeland, 2021).

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Appendix A  
Evaluation Table

<p><b>ARTICLE #1</b> Anderson, N. (2020). An evaluation of a mindfulness-based stress reduction intervention for critical care nursing staff: A quality improvement project.</p>	<p>None noted.</p>	<p>QI Project to evaluate an MBSR course as a quality improvement project in adult critical care unit (ACCU).</p>	<p>Invited/capped (N=25) (N=23) baseline sample; nurses working in ACCU  Male n=3 Female n=20</p>	<p>IV: MBSR DV1: QOL DV2: PS DV3: MA DV4: sick DV5: Ab</p>	<p>SWLS  PSS  MAAS</p>	<p>Mdiff.  SE  95% CI</p>	<p>Week 8 v. precourse (Mdiff; SE; CI) SWLS 3.92; 0.90; 1.78 PSS -7.85; 1.36; -11.10 MAAS 0.83; 0.21; 0.34  4 mos v. precourse SWLS 3.24; 2.11; -1.81 PSS -8.69; 1.71; -12.78 MAAS 0.99; 0.22; 0.47  4 mos v. 8 weeks SWLS -.0.68; 2.19; -5.94 PSS -0.85; 1.19; -3.69 MAAS 0.16; 0.14; -0.18</p>	<p>1.Strengths: <i>Feasible. Accepted. Improvement in QOL, PS, MA.</i> 2. Limitations: <i>Difficult to generalize. No exclusion criteria set. Short follow up.</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: <i>VI</i> 5. Strength of the evidence: a. <i>Low</i> b. USPSTF grade: <i>C</i>  6. Feasibility of use of the evidence in your practice: <i>Feasible and accepted by nurses in critical care setting.</i></p>
<p><b>ARTICLE #2</b> Bianchini, C., &amp; Copeland, D. (2021). The use of mindfulness-based interventions to mitigate stress and burnout in nurses.</p>	<p>Watson’s “theory of human caring”</p>	<p>QI project PDSA to decrease perceived stress and/or burnout among nurses</p>	<p>Invited (N=150) Attended (n=86) Pre-implementation (n=76) Post-implementation (n=57)</p>	<p>IV: RCW DV1: perceived stress DV2: burnout</p>	<p>MBi PSS</p>	<p>MV SD</p>	<p>MBi: EE: 5.9% reduction • MV: 2.71 &gt; 2.55 • SD: 1.53 &gt; 1.37 D: 4.9% reduction • MV: 1.42 &gt; 1.35 • SD: 1.26 &gt; 1.15 PSS: Perceived stress: 11% decrease • Pre: MV = 16.13; SD = 7.74 Post: MV = 14.33; SD = 6.52</p>	<p>1.Strengths: <i>Feasible. Reduction in EE, D, and perceived stress.</i> 2. Limitations: <i>Small sample size</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: <i>VI</i> 5. Strength of the evidence: a. <i>Low</i> b. USPSTF grade: <i>C</i>  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i></p>

<p><b>ARTICLE #3</b> Ghawadra, et al. (2020). The effect of mindfulness-based training on stress, anxiety, depression, and job satisfaction among ward nurses: A randomized control trial.</p>	<p>CONSORT (p. 1089)</p>	<p>RCT to assess the effect of a 4-week mindfulness-based training intervention on improving stress, anxiety, depression and job satisfaction among ward nurses (p. 1088)</p>	<p>Assessed (N=932); Excluded (N=683); Randomized (N=249); I (N=123); C (N=126); Lost to FU (N=36); Analyzed: I (N=118), C (N=106) (p. 1089)</p>	<p>IV1: MBT workshop IV2: MBT website  DV1: S DV2: A DV3: Dep DV4: JS (p. 1088)</p>	<p>DASS-21 JSS  MAAS (p.p. 1089-1091)</p>	<p>GEE  ESF  NNT (p. 1092)</p>	<p>GEE: S (p&lt;.001) A (p&lt;.001) Dep (p&lt;.001) M (p&lt;.001)  ESF: Small=0.2 Medium=0.5 Large=0.8 (p. 1092)</p>	<p>1.Strengths: <i>Practical, cost-effective; improved A and JS</i> 2. Limitations: <i>no significant improvement in stress and depression symptoms</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: II 5. Strength of the evidence: a. <i>High</i> b. USPSTF grade: <i>B</i>  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i></p>
<p><b>ARTICLE #4</b> Green, A. A., &amp; Kinchen, E. V. (2021). The effects of mindfulness meditation on stress and burnout in nurses.</p>	<p>Cornwall and Daly's critical review framework</p>	<p>LR To explore current knowledge on the effectiveness of MBSR for stress and burnout in nurses, to identify gaps in the literature, and to provide recommendations for future research</p>	<p>Initial (N=823) Excluded w limiters/duplicates (n=491) Excluded not meeting criteria (n=65) Reviewed Studies (N=8)</p>	<p>IV1: traditional MBSR IV2: modified MBSR DV1: S DV2: B</p>	<p>MBi SCS PSS</p>	<p>NA</p>	<p>MBSR positive effects on S and B, and self-compassion</p>	<p>1.Strengths: <i>Feasible, learned MM can be used anytime, anywhere. Decreased S, B, improved self-compassion, self-awareness.</i> 2. Limitations: <i>Small sample size, difficult to generalize. Studies lacked consistency.</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: <i>VII</i> 5. Strength of the evidence: a. <i>Low</i> b. USPSTF grade: <i>C</i>  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i></p>

		on the topic.						
<p><b>ARTICLE #5</b> Lin, et al., (219). The effects of a modified mindfulness-based stress reduction program for nurses.</p>	None noted.	<p>RCT to evaluate the effects of a modified mindfulness-based stress reduction (MBSR) program on the levels of stress, affect, and resilience among nurses in general hospitals in mainland China</p>	<p>Intervention (n=55) (n=44, after exclusion)  Control (n=55) (n=46, after exclusion)</p>	<p>IV: modified MBSR  DV1: S DV2: positive emotion/affect DV3: negative emotion/affect DV3: resilience</p>	<p>PSS  PANAS  CD-RISC  MMSS</p>	M +/- SD	<p>S Intervention Group Baseline 40.91 ± 6.44 Post 37.39 ± 5.97 3mo FU 36.68 ± 6.79  Control Group Baseline 39.91 ± 4.90 Post 40.76 ± 5.01 3mo FU 39.67 ± 5.24  Pos Emot Intervention Group Baseline 28.52 ± 6.50 Post 32.02 ± 6.45 3mo FU 33.21 ± 7.38  Control Group Baseline 28.74 ± 5.05 Post 29.00 ± 5.51 3mo FU 29.00 ± 5.62  Neg Emot Intervention Group Baseline 23.82 ± 5.45 Post 20.80 ± 4.72 3mo FU 20.84 ± 5.09  Control Group Baseline 21.78 ± 5.04 Post 23.61 ± 5.17 3mo FU 24.37 ± 5.62  Resilience Intervention Group Baseline 54.43 ± 11.46 Post 57.98 ± 11.58 3mo FU 59.70 ± 11.87  Control Group Baseline 55.17 ± 11.85 Post 55.11 ± 12.80 3mo FU 53.85 ± 16.21</p>	<p>1. Strengths: <i>RCT, modified MBSR, accommodating busy professionals. Combined MBSR &amp; MBCT.</i> 2. Limitations: <i>relatively small sample size, limited qualitative data retrieved.</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: I 5. Strength of the evidence:     a. <i>High</i>     b. USPSTF grade: <i>B</i>  6. Feasibility of use of the evidence in your practice: <i>Effective to reduce stress &amp; improve health. Potential to improve job satisfaction. Feasible.</i></p>

							<p>Job Satisfaction</p> <p>Intervention Group</p> <p>Baseline 98.23 ± 11.87</p> <p>Post 102.27 ± 14.44</p> <p>3mo FU 102.14 ± 15.55</p> <p>Control Group</p> <p>Baseline 96.17 ± 16.21</p> <p>Post 96.17 ± 18.05</p> <p>3mo FU 96.59 ± 19.25</p>	
<p><b>ARTICLE #6</b></p> <p>Motaghe di et al., (2016). Effectiveness of mindfulness based cognitive therapy on the distress tolerance of nurses and job burnout.</p>	None noted.	<p>Quasi-experimental study to investigate the effects of mindfulness-based cognitive therapy (MBCT) on the distress tolerance of nurses with job burnout</p>	<p>N=30 nurses with burnout</p> <p>Randomly assigned to study group</p> <p>N=15 to each study group</p>	<p>IV: MBCT</p> <p>DV1: distress tolerance</p> <p>DV2: burnout</p> <p>DV3: EE</p> <p>DV4: D</p>	<p>MBi</p> <p>DTS</p>	<p>MV</p> <p>SD</p> <p>Min/max</p>	<p>(MV, SD, min/max)</p> <p>Experimental group</p> <p>Distress tolerance (54.13, 7.03, 43/65)</p> <p>Burnout (66, 9.16, 65/93)</p> <p>EE (27, 6.15, 16/39)</p> <p>D (24.27, 3.01, 20/29)</p> <p>Control group</p> <p>Distress tolerance (39.40, 6.75, 30/53)</p> <p>Burnout (66, 12.28, 56/100)</p> <p>EE (27, 4.89, 26/44)</p> <p>D (15, 4.69, 11/29)</p>	<p>1. Strengths: <i>MBCT effective for distress tolerance, and employment. Improves self-care with continued use.</i></p> <p>2. Limitations: <i>Small-sample size, female only, no long-term effects evaluated.</i></p> <p>3. Risk of harm: <i>None</i></p> <p>4. Level of evidence: <i>III</i></p> <p>5. Strength of the evidence:</p> <p>a. <i>Low</i></p> <p>b. <i>USPSTF grade: C</i></p> <p>6. Feasibility of use of the evidence in your practice: <i>Feasible, effective.</i></p>
<p><b>ARTICLE #7</b></p> <p>Sarazine, et al. (2021). Mindfulness workshop effects on nurses' burnout, stress, and mindfulness skills.</p>	None noted	<p>Descriptive study to determine the impact of a 4-hour mindfulness workshop on burnout and perceived levels of stress and</p>	<p>Nurses: baseline (N=52)</p> <p>1-mo post (n=31)</p> <p>6-mo post (n=20)</p>	<p>IV: 4-hour MW</p> <p>DV1: perceived M</p> <p>DV2: PA</p> <p>DV3: EE</p>	<p>MBi-HSS</p> <p>PSS</p> <p>CAMS-R</p>	<p>MV</p> <p>SD</p> <p>95% CI</p>	<p>MBi-HSS</p> <ul style="list-style-type: none"> <li>• EE: Baseline to 6 mo MV(SD): - 6.21 (10.83); CI - 12.47 to 0.04</li> <li>• PA: Baseline to 6 mo: MV(SD): 4.43 (7.40); CI: 0.16 to 8.70</li> <li>• D: Baseline to 6 mo: MV(SD): - 1.71 (4.48); CI - 4.30 to 0.87</li> </ul> <p>CAMS-R</p> <ul style="list-style-type: none"> <li>• Baseline to 6 mo: MV(SD): 2.50 (4.09); CI: 0.14 to 4.86</li> </ul> <p>PSS:</p> <ul style="list-style-type: none"> <li>• Baseline to 6 mo: MV(SD): - 1.83 (4.47); CI: - 4.67 to 1.01</li> </ul>	<p>1. Strengths: <i>Significant findings through reliable measurement tools. Nurses reported decreased burnout symptoms, perceived stress, and increased mindfulness skills at 6 months post implementation.</i></p> <p>2. Limitations: <i>Small sample size, not generalizable to all nurses.</i></p> <p>3. Risk of harm: <i>None</i></p> <p>4. Level of evidence: <i>I</i></p> <p>5. Strength of the evidence:</p> <p>a. <i>Medium</i></p> <p>b. <i>USPSTF grade: C</i></p>

		mindfulness.						6. Feasibility of use of the evidence in your practice: <i>Feasible</i>
<b>ARTICLE #8</b> Slatyer, et al. (2018). Nurse experience of participation in a mindfulness-based self-care and resiliency intervention.	None noted	QDD “Is the MSCR program effective in building and maintaining resilience and decreasing levels of anxiety, stress, trait negative affect and compassion fatigue?” “What is the acceptability, feasibility and applicability of the MSCR program to nurses?”	Interviewed (N=16) [Inpatient setting (n=6); outpatient clinics (n=7); management positions (n=3)]  (p. 611)	IV: MSCR DV1: GPI DV2: FIC DV3: TTCS DV4: PFA DV5: SCS  (pp. 611-613)	NVivo qualitative analysis software  (p. 613)	Verbatim transcripts of interviews-thematic analysis: GPI, FIC, TTCS, PFA, SCS  (p. 612)	Evidence of GPI, FIC, TTCS, PFA, SCS  (pp. 613-615)	1.Strengths: <i>increased awareness of thought patterns in stressful situations</i> 2. Limitations: <i>Sample was self-selected.</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: <i>VI</i> 5. Strength of the evidence: a. <i>Low</i> b. USPSTF grade: <i>C</i>  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i>
<b>ARTICLE #9</b> Suleiman-Martos, et al. (2020). The effect of mindfulness	None noted	SR/MA to determine the effectiveness of mindfulness	Articles screened (N=673); Excluded after reading title & abstract (N=631); Excluded after	IV: MT, MBP DV1: EE DV2: D DV3: PA (pp. 1126-1127)	MBi ProQOL CBI  (p. 1126)	MV  95%CI  (p. 1126)	EE: • MV: 1.32 • 95%CI: -9.41-6.78  D: • MV: 1.91 • 95%CI: -4.50-0.68	1.Strengths: <i>reduction in burnout among nurses, reduced EE, increase PA</i> 2. Limitations: <i>no change D; limited data, variations, limited duration, several lacking randomization</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: <i>I</i>

<p>ss training on burnout syndrome in nursing: A systematic review and meta-analysis.</p>		<p>interventions in reducing levels of burnout among nurses</p>	<p>full-text reading (N=25); Final sample for qual syntheses (N=17); Final sample for quant synthesis (N=2) (p. 1126)</p>				<p>PA:  <ul style="list-style-type: none"> <li>MV: 2.12</li> <li>95%CI: -9.91-14.14 (pp. 1133-1134)</li> </ul> </p>	<p>5. Strength of the evidence:                      a. <i>High</i>                      b. USPSTF grade:  <i>B</i></p> <p>6. Feasibility of use of the evidence in your practice:  <i>Feasible.</i></p>
<p><b>ARTICLE #10</b>                      Solusarri, et al., (2022). The effectiveness of mindfulness-based interventions on the psychological well-being of nurses: A systematic review.</p>	<p>PRISMA protocol</p>	<p>SR                      to identify mindfulness-based interventions and outcome measures and to evaluate the effect on the psychological well-being of nurses</p>	<p>N=709 articles identified – CINAHL (n = 210), Scopus (n = 199), PubMed (n = 157), and PsycINFO (n = 143), Additional records (n=9) Screened (n=718) Excluded (n=701) – duplicate, non-nursing, irrelevant, not mindfulness intervention Full text assessed for eligibility (n=17); did not meet exclusion criteria (n=6)                      Included in review (n=11)</p>	<p>IV: mindfulness interventions                      DV1: S                      DV2: Dep                      DV3: A                      DV4: B                      DV5: resilience                      DV6: QOL                      DV7: self-compassion                      DV8: happiness                      DV9: level of mindfulness</p>	<p>JB1</p>	<p>Meta-analysis could not be performed. Systematic narrative summary.</p>	<p>10 out of 11 studies revealed positive outcomes for DVs; improved well-being of nurses,                      7/7 which evaluated stress had a positive impact.                      4 studies showed improvement of self-compassion.                      5 revealed improved level of mindfulness.                      5 showed reduction in nurse burnout.</p>	<p>1.Strengths: <i>systematic methodological approach. JBI eval tool, more than one reviewer, reduction in burnout among nurses, improved wellness and self-compassion,</i>                      2. Limitations: <i>no inclusion of gray literature, small number of RCTs, no meta-analysis</i>                      3. Risk of harm: <i>None</i>                      4. Level of evidence: <i>I</i>                      5. Strength of the evidence:                      a. <i>High</i>                      b. USPSTF grade:  <i>B</i></p> <p>6. Feasibility of use of the evidence in your practice:  <i>Feasible due to positive outcomes.</i></p>
<p><b>ARTICLE #11</b>                      Van der Riet, et al.,</p>	<p>Whittemore &amp; Knaf1’s framework for</p>	<p>LR                      to critically appraise</p>	<p>N=1703 articles identified – Additional records (n=2)</p>	<p>IV: MM                      DV1: S                      DV2: Dep                      DV3: B</p>	<p>McMaster critical review form                      CASP</p>	<p>A wide range of instruments were used to measure outcomes; most had evidence of</p>	<p>4/5 studies utilizing MBSR demonstrated positive outcomes.</p>	<p>1.Strengths: <i>significant impact on stress, depression, anxiety, burnout, and well-being..</i></p>

<p>(2018). The effectiveness of mindfulness meditation for nurses and nursing students: An integrate literature review.</p>	<p>integrated reviews.</p>	<p>the literature that related to the effectiveness of mindfulness meditation programs for nurses and nursing students</p>	<p>After duplicates removed (n=1655) Excluded (n=1567) – irrelevant Full text assessed for eligibility (n=88); did not meet exclusion criteria (n=68) Critical appraisal (n=20); excluded after critical appraisal (n=4) Included in review (n=16)</p>	<p>DV4: A DV5: sense of well-being DV6: empathy</p>		<p>psychometric integrity but a number were developed for the purpose of the study and reliability and validity were not reported.  In this review the significant areas of impact were identified as stress reduction, depression and anxiety; burnout and lastly a sense of well-being.</p>	<p>3 studies reported significant reduction in stress levels for experimental group compared to control group.  7 studies evaluated burnout (using MBI, or PQoL) demonstrating significant improvement.  In the only qualitative study included, a reduction in stress, negative thoughts and feelings were noted.</p>	<p>2. Limitations: <i>small sample sizes, lack of control groups, limited statistical power, limited generalisability</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: VII 5. Strength of the evidence: a. <i>Low</i> b. USPSTF grade: C  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i></p>
<p><b>ARTICLE #12</b> Yildirm, D. &amp; Yildiz, C. (2022). The Effect of Mindfulness-Based Breathing and Music Therapy Practice on Nurses' Stress, Work-Related Strain, and Psychological Well-being</p>	<p>CONSORT</p>	<p>RCT to investigate the effect of the mindfulness-based breathing and music therapy practice on stress, work-related strain, and psychological well-being levels of nurses who provided</p>	<p>Assessed for eligibilitiy (n=12) Randomized (n=110) Intervention (n=55) Control (n=55) Analyzed • Intervention (n=52) • Control (n=52)</p>	<p>IV1: MBBMT DV1: S DV2: WRS DV3: PWB</p>	<p>SAI WRSS PWBS</p>	<p>MV +/-SD</p>	<p>SAI: Intervention Group Before: • 51.86 ± 15.89 After • 51.28 ± 13.38 Control Group Before: • 42.90 ± 11.75 After • 50.36 ± 14.48 95%CI Before: -5.13 to 6.29 After: -12.79 to 2.13  PWBS: Intervention Group Before: • 39.84 ± 8.48 After: • 46.76 ± 7.22 Control Group Before: • 41.34 ± 11.08 After</p>	<p>1.Strengths:<i>RCT, large sample size, applied to nurses in all subgroupsof intervention group by same therapist.</i> 2. Limitations: <i>long-term effects not evaluated, limited to single session.</i> 3. Risk of harm: <i>None</i> 4. Level of evidence: I 5. Strength of the evidence: a. <i>High</i> b. USPSTF grade: B  6. Feasibility of use of the evidence in your practice: <i>Feasible.</i></p>

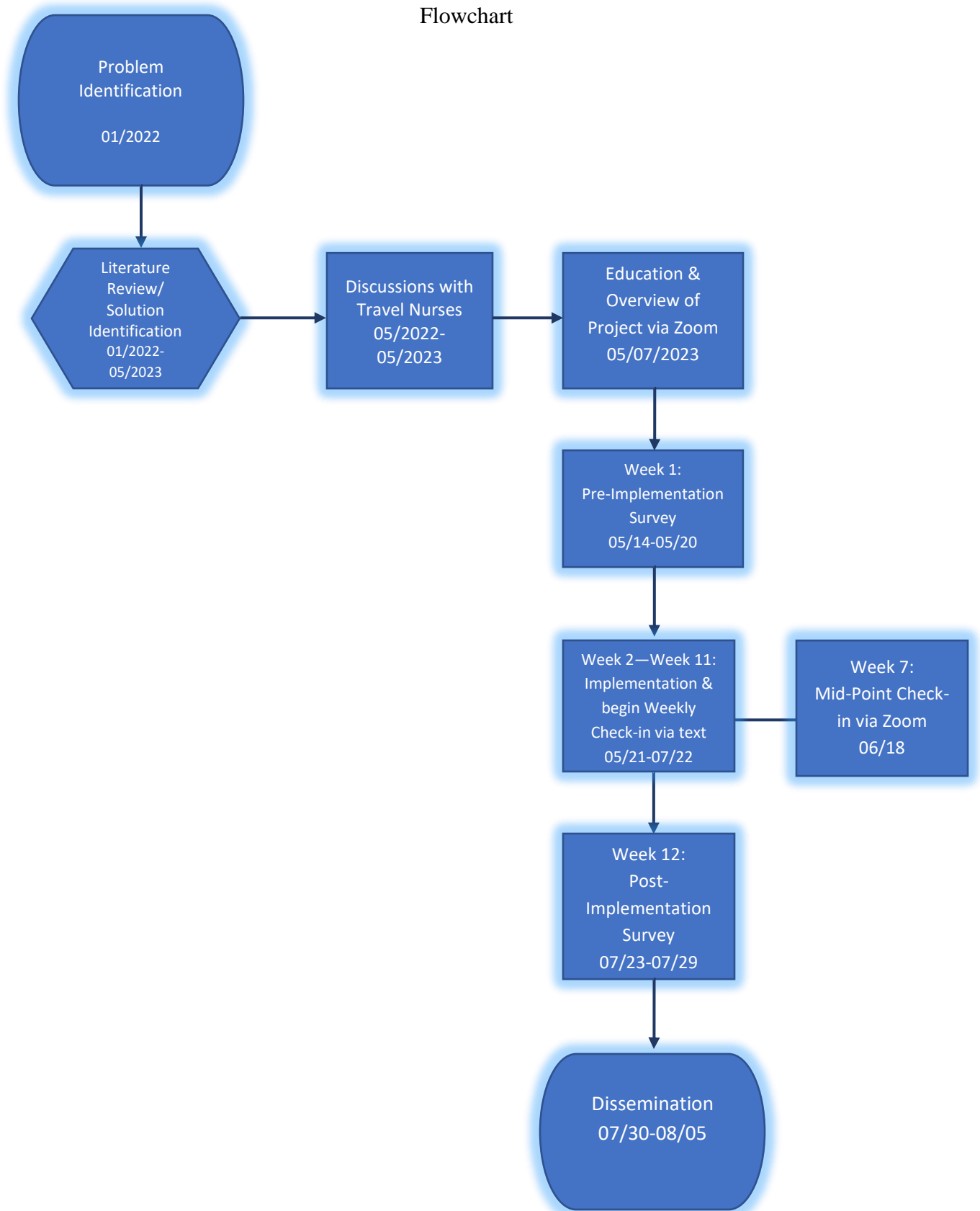
During the COVID-19 Pandemic		COVID-19 patients with care.				<ul style="list-style-type: none"> <li>• 41.61 ± 12.10</li> <li>95%CI</li> <li>Before: -5.33 to 2.33</li> <li>After: 1.27 to 9.03</li> <li>WRSS:</li> <li>Intervention Group</li> <li>Before:</li> <li>• 42.03 ± 9.85</li> <li>After:</li> <li>• 37.32 ± 5.62</li> <li>Control Group</li> <li>Before:</li> <li>• 41.55 ± 7.46</li> <li>After</li> <li>• 40.71 ± 7.87</li> <li>95%CI</li> <li>Before: -2.91 to 3.88</li> <li>After: -6.04 to 0.72</li> </ul>	
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Legend: A=anxiety; ACCU=adult critical care unit; CAMS-R=Cognitive and Affective Mindfulness Scale—Revised; CBI=Copenhagen Burnout Inventory questionnaire; C=control; CASP=Critical Appraisal Skills Program; CD-RISC=Connor-Davidson Resilience Scale; CI=confidence interval; CONSORT=Consolidated Standards of Reporting Trials; D=depersonalization; DASS-21=Depression, Anxiety, and Stress Scale-21; Dep=depression; DTS=distress tolerance scale; DV=dependent variable(s); EE=emotional exhaustion; ESF=effect size formula; FIC=developing feelings of inner calm; GEE=generalized estimating equation; GPI=gaining perspective and insight; I=intervention; IV=independent variable(s); JBI=Joanna Briggs Institute critical appraisal tools; JS=job satisfaction; JSS=Job Satisfaction Scale for Nurses; LR=literature review; M=mindfulness; MA= meta-analysis; MAAS=Mindful Attention Awareness Scale; MBBMT: mindfulness-based breathing and music therapy; MBCT=mindfulness based cognitive therapy; MBI=Maslach Burnout Inventory questionnaire; MBI-HSS=Maslach Burnout Inventory questionnaire—Human Services Survey; MBI = mindfulness based interventions; MBP=mindfulness-based program MBSR=mindfulness based stress reduction; MBT=mindfulness-based training; Mdiff=mean difference; MM=mindfulness meditation; MMSS=The McClockey/Mueller Satisfaction Scale; MSCR=mindful self-care and resiliency; MT=mindfulness training; MV=mean value; MW = mindfulness workshop; NNT=number needed to treat; PA=personal accomplishment; PANAS=positive and negative affect schedule; PDSA=plan, do , study, act; PFA=perceived feasibility and acceptability of MSCR program; PRISMA=preferred reporting items for systematic reviews and meta-analyses; ProQOL=Professional Quality of Life Scale questionnaire; PSS=perceived stress scale; PWB=psychological well-being; PWBS=psychological well-being scale; QDD=qualitative descriptive design; QI = quality improvement; QOL=quality of life; RCT=randomized control trial; RCW=recharge at work; S=stress; SAI=stat anxiety inventory; SCS=using self-care strategies; SD=standard deviation; SR=systematic review; SWLS=satisfaction with life scale; TTCS=taking time to care for self; WRS=work related strain; WRSS=work-related strain scale



Appendix B

Flowchart



Appendix C

Copenhagen Burnout Inventory

<b>PERSONAL BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>
How often do you feel tired?					
How often are you physically exhausted?					
How often are you emotionally exhausted?					
How often do you think: "I can't take it anymore?"					
How often do you feel worn out?					
How often do you feel weak and susceptible to illness?					
<b>WORK-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>
Do you feel worn out at the end of the working day?					
Are you exhausted in the morning at the thought of another day at work?					
Do you feel that every working hour is tiring for you?					
*Do you have enough energy for family and friends during leisure time?					
Is your work emotionally exhausting?					
Does your work frustrate you?					
Do you feel burnt out because of your work?					
<b>CLIENT-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>
Do you find it hard to work with clients?					
Does it drain your energy to work with clients?					
Do you find it frustrating to work with clients?					
Do you feel that you give more than you get back when you work with clients?					
	<b>TO A VERY HIGH DEGREE</b>	<b>TO A HIGH DEGREE</b>	<b>SOMEWHAT</b>	<b>TO A LOW DEGREE</b>	<b>TO A VERY LOW DEGREE</b>
Are you tired of working with clients?					
Do you sometimes wonder how long you will be able to continue working with clients?					

Appendix C (Continued).

Pre-Implementation.

	5	4	3	2	1	Mean	n
<b>PERSONAL BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>3.28</b>	
How often do you feel tired?	1	3	2	1		3.57	7
How often are you physically exhausted?		4	3			4	7
How often are you emotionally exhausted?		4	1	2		3.29	7
How often do you think: "I can't take it anymore?"		1	3	2	1	2.57	7
How often do you feel worn out?	1	3	2	1		3.57	7
How often do you feel weak and susceptible to illness?		1	3	3		2.71	7
<b>WORK-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>3.41</b>	
Do you feel worn out at the end of the working day?	1	3	3			3.71	7
Are you exhausted in the morning at the thought of another day at work?	1	3		2	1	3.14	7
Do you feel that every working hour is tiring for you?	1	3	1		2	3.14	7
*Do you have enough energy for family and friends during leisure time?		1	3	2	1	*3.43	7
Is your work emotionally exhausting?		4	2	1		3.43	7
Does your work frustrate you?		1	5	1		3	7
Do you feel burnt out because of your work?	3	1	3			4	7
<b>CLIENT-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>2.88</b>	
Do you find it hard to work with clients?		1	5	1		3	7
Does it drain your energy to work with clients?		1	5	1		3	7
Do you find it frustrating to work with clients?		1	5	1		3	7
Do you feel that you give more than you get back when you work with clients?		1	3	3		2.71	7
	<b>TO A VERY HIGH DEGREE</b>	<b>TO A HIGH DEGREE</b>	<b>SOMEWHAT</b>	<b>TO A LOW DEGREE</b>	<b>TO A VERY LOW DEGREE</b>		
Are you tired of working with clients?		1	4	2		2.86	7
Do you sometimes wonder how long you will be able to continue working with clients?		1	3	3		2.71	7
<b>OVERALL MEAN SCORE</b>						<b>3.20</b>	

\*Reverse Scored

Appendix C (Continued).

Post-Implementation

	5	4	3	2	1	Mean	n
<b>PERSONAL BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>2.86</b>	
How often do you feel tired?	1	3	1	2		3.43	7
How often are you physically exhausted?		4	2	1		3.43	7
How often are you emotionally exhausted?			5	2		2.71	7
How often do you think: "I can't take it anymore?"			4	3		2.57	7
How often do you feel worn out?			4	3		2.57	7
How often do you feel weak and susceptible to illness?			3	4		2.43	7
<b>WORK-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>2.88</b>	
Do you feel worn out at the end of the working day?	1	3	2	1		3.57	7
Are you exhausted in the morning at the thought of another day at work?			3	3	1	2.29	7
Do you feel that every working hour is tiring for you?		2	3	1	1	2.86	7
*Do you have enough energy for family and friends during leisure time?		3	3	1		*2.71	7
Is your work emotionally exhausting?		1	5	1		3	7
Does your work frustrate you?		1	4	2		2.86	7
Do you feel burnt out because of your work?		1	4	2		2.86	7
<b>CLIENT-RELATED BURNOUT</b>	<b>ALWAYS</b>	<b>OFTEN</b>	<b>SOMETIMES</b>	<b>SELDOM</b>	<b>NEVER/ ALMOST NEVER</b>	<b>2.81</b>	
Do you find it hard to work with clients?			5	2		2.71	7
Does it drain your energy to work with clients?		1	4	2		2.86	7
Do you find it frustrating to work with clients?		1	4	2		2.86	7
Do you feel that you give more than you get back when you work with clients?		1	2	4		2.57	7
	<b>TO A VERY HIGH DEGREE</b>	<b>TO A HIGH DEGREE</b>	<b>SOMEWHAT</b>	<b>TO A LOW DEGREE</b>	<b>TO A VERY LOW DEGREE</b>		
Are you tired of working with clients?		1	4	2		2.86	7
Do you sometimes wonder how long you will be able to continue working with clients?		1	5	1		3	7
<b>OVERALL MEAN SCORE</b>						<b>2.85</b>	

\*Reverse Scored