

Mindfulness-based stress reduction interventions: Can intentional self-awareness reduce stress in older adults?

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Many studies have determined that older adults may be particularly vulnerable to stress

- Stress is a normal and frequent component of life
- Older adults may be at increased risk for negative effects (Aldwin, 2007)
- Chronic disease can exacerbate the effects of everyday stress
- Repetition of stress can result in an aggregated effect (Aldwin et al., 2014)



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BUT, results from other studies lead researchers to believe that older adults may be MORE resilient to stress



<https://3a09223bcd53870eeaa-7f75e5eb51943043279413a54aaa858a.ssl.cf3.rackcdn.com//17a9c5e9433ec41309bb8e13f22175022474013726-1329130480-4f38ebfo-620x348.jpg>

- Many older adults use more effective coping strategies (Berg & Upchurch, 2007)
- Better emotional regulation and more sophisticated cognitive function may aid in lower response to stressors (Carstensen et al., 1999)
- Methods to elicit relaxation response can be learned (Sculthorpe et al., 2015)

Women may exhibit more negative response to stress

- Women are diagnosed with anxiety and mood-related pathology at higher rates (Kelly et al., 2008)
- Women also report more distress to fear-producing and stressful experiences than men (Kelly et al., 2008)

Means and standard deviation of visual analogue scale change scores assessed immediately following and 45 min after Trier Social Stress Test (TSST)

	Post-challenge				After 45 min			
	Men		Women		Men		Women	
	M	SD	M	SD	M	SD	M	SD
Calm	-14.30	19.59	-9.31	18.55	-2.74	17.75	0.33	16.90
Fear	0.14 ^a	4.19	4.31 ^a	6.92	-0.96	3.35	-2.69	8.04
Happiness	0.74 ^b	7.17	-3.92 ^b	8.01	4.00	14.22	1.92	10.67
Irritability	3.33 ^c	6.45	8.96 ^c	12.81	-1.41	4.07	1.40	8.52

(Kelly et al., 2008) ^ap=0.010; ^bp=0.033; ^cp=0.047

One theory is that women are more resilient when it comes to dealing with stress due to a combination of psychological and physiological determinants

Gender differences in stress & coping

- Women report higher stress levels than men (APA, 2012)
 - Women rely more on social networks to cope with challenges (Taylor et al., 2008)

Tend and befriend paradigm

- Social and physical factors affect cortisol response (Taylor et al., 2000)
 - Estrogen may influence reliance on social networks (Taylor et al., 2000)

Women's physiology may make them more vulnerable to stress as they age

- Hormonal changes may increase vulnerability to stress response (Proulx, 2015)
 - But increased use of emotion regulating may counteract the hormonal effects (Born et., 1995; Hajanti & Philips, 2006)

Mindfulness Based Stress Reduction (MBSR): may be a good method to reduce stress in older adults

- As we age, we tend to focus more on the present (Proulx, 2015)
- Social networks become smaller and more committed (Carstensen et al., 1999; LaBouvie-Vief, Diehl, Jain & Zhang, 2007)
- Because it emphasizes the present moment and emotion regulation, MBSR may resonate as a coping tool with older adults



<http://www.dailymail.co.uk/debate/article-1141366/ALLISON-PEARSON-Grandma-knows-far-nursery.html>

The nine aspects of mindfulness in MBSR

- Observing, attending to experiences
- Acting with awareness
- Nonjudgmental acceptance
- Self acceptance of experiences
- Willingness and readiness to expose oneself to experiences
- Non-reactivity to experiences
- Non-identification with experiences
- Insightful understanding
- Labeling and describing

(Kabat-Zinn, 1986)



<http://www.feelguide.com/wp-content/uploads/2014/11/BrainHarvardMeditation-657x360.jpg>

MBSR presents a very adaptable skill set for decreasing stress response, BUT

- There are very few MBSR studies that have been done using older adults as participants
- We were unable to find any MBSR studies with older adults that measured cortisol as a marker of reduced, static, or increased stress response
- There are no studies that are using an MBSR intervention, are stratified by sex and use cortisol to measure stress response in older adults

Present study

- In this **pilot feasibility study**, we will be investigating whether a MBSR meditation session with a yoga component is an effective means of reducing stress in older adults.
- We hypothesize that older adults will experience decreased stress after treatment
- Also, they will self-report increased compassion
- They will have decreased stress reactivity as indicated by cortisol DRS
- Finally, we believe women will benefit more from MBSR and have decreased response to stressors

Methods

Sample and Procedure

- 10 older men and 10 older women will be recruited from Chintimini Senior Center and/or the Life Registry
- Week 1 will establish baselines using a four day Daily Stress Diary, including stress ratings, cortisol measures, as well as the questionnaires regarding mindfulness and compassion ratings
- Weeks 2-6 will include a 4 week MBSR program in which subjects will participate in weekly MBSR yoga sessions, and have daily journaling and compassion assignments
- Week 7 will be used for a follow up with a second assessment of the Daily Stress Diary, cortisol levels, and the questionnaires regarding mindfulness and compassion ratings

Measures

- DISE stress rating scale
Daily Inventory of Stressed Events
- Baseline and Follow up Questionnaire
Comprehensive Inventory of Mindfulness (ChIMES), Five Facts of Mindfulness (FFM) Self Compassion Scale (SSC)
- Salivary cortisol measurements
- We will be measuring salivary cortisol four times a day: upon rising, 30 minutes after rising and at the end of the day
- The area under the curve will be calculated for each day

Analyses

- Paired t tests comparing average cortisol levels at t1 and t2 will be used to examine whether there is any change in stress, personality, and cortisol measurements after the MBSR program
- A Multivariate Analysis of Variance (MANOVA) will be used to determine if there are gender differences in these changes

To repeat, we expect to find

- Reported stress ratings will decrease
- Reported mindfulness and self compassion will increase
- Daily cortisol levels will be lower
- Women will benefit more from this intervention than men



What we found:



http://aubis.com.au/wp-content/uploads/2014/03/760af276ee6f9b46d3f3a54c804b7c7d_L.jpg