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A randomized, controlled study of an online intervention to promote job satisfaction and well-being among physicians

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ABSTRACT

Although burnout, poor quality of life (QOL), depression, and other forms of psychological distress are common among physicians, few studies testing interventions to reduce distress have been reported. We conducted a randomized trial to determine the impact of a 10-week, individualized, online intervention on well-being among physicians (n = 290). Participants were randomized to either the intervention or control arm. Those in the intervention arm received a menu of self-directed micro-tasks once a week for 10 weeks, and were asked to select and complete one task weekly. Baseline and end-of-study questionnaires evaluating well-being (i.e., burnout, depression, QOL, fatigue) and professional satisfaction (i.e., job satisfaction, work engagement, meaning in work, and satisfaction with work-life balance) were administered to both arms. Overall quality of life and fatigue improved over the 10 weeks of the study for those in the intervention arm (both p < 0.01). When compared to the control arm, however, no statistically significant improvement in these dimensions of well-being was observed. At the completion of the study, those in the intervention arm were more likely to report participating in the study was worthwhile compared to those in the control arm. The findings suggest that although participants found the micro-tasks in the intervention arm worthwhile, they did not result in measurable improvements in well-being or professional satisfaction when compared to the control group. These results also highlight the critical importance of an appropriate control group in studies evaluating interventions to address physician burnout and distress.

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1. Introduction

Professional burnout, poor mental quality of life (QOL), depression, and other forms of psychological distress are common among physicians (Dyrbye, West et al., 2014; Shanafelt et al., 2015; Wallace, Lemaire, & Ghali, 2009). Large national studies have found burnout is more common among physicians than the general US working population even after controlling for work hours (Shanafelt, Boone et al., 2012; Shanafelt et al., 2015). This distress can lead to suicidal ideation, substance abuse, poor patient care, medical errors, career dissatisfaction, job turnover, and early retirement (Dyrbye et al., 2008; Dyrbye, Massie et al., 2010; Oreskovich et al., 2011, 2014; Shanafelt et al., 2009, 2010; Shanafelt, Balch et al., 2011; Shanafelt, Sloan, Satele, & Balch, 2011; Shanafelt, Bradley, Wipf, & Back, 2002; West et al., 2006; West, Tan, Habermann, Sloan,

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& Shanafelt, 2009; West, Shanafelt, & Kolars, 2011). Work-related stressors such as excessive work hours and malpractice litigation as well as personal life events and work-home conflict appear to be contributing factors to distress (Balch et al., 2011; Dyrbye et al., 2006, 2012; Dyrbye, Sotile et al., 2014; Shanafelt, 2009; Shanafelt, Sloan, & Habermann, 2003). Despite the high prevalence of distress and seriousness of its consequences, few randomized intervention trials aimed at promoting physician well-being have been conducted.

A 2011 randomized controlled study of 74 physicians utilizing a facilitated small group curriculum that addressed a wide range of topics (e.g., self-care, meaning in work, dealing with suffering, mindful practice, work-life balance) demonstrated improvements in engagement and well-being (West et al., 2014). Implementing this intervention on a larger scale, however, is problematic due to reliance on trained facilitators, expense (cost of 1 h of paid physician time weekly plus lost revenue), and reduction in access for patients to get needed care. For interventions to be feasible within a busy healthcare setting approaches need to be brief, practical, and low cost. Others have tested the use of regular, brief, self-directed exer-

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cises (Fordyce, 1977, 1983) and electronically delivered tasks (Kypri et al., 2009; Seligman & Steen 2005) in non-physician populations. Built on the prior pioneering work demonstrating that multiple directed exercises can improve happiness (Fordyce, 1977, 1983) Dr. Martin Seligman, a leader in positive psychology, conducted an internet based randomized controlled trial evaluating the impact of five happiness exercises among non-physicians. Findings from that study suggest that brief exercises grounded in positive psychology and delivered electronically can increase happiness and decrease depressive symptoms (Mongrain & Anselmo-Matthews, 2012; Seligman & Steen, 2005). This study aligns with findings from other web-based interventions in the field of tobacco and alcohol research (Kypri et al., 2009; Prochaska, DiClemente, Velicer, & Rossi, 1993). However, evidence of the effect of similar interventions among physicians is lacking. We conducted a randomized controlled study to determine the efficacy of a 10-week, individualized, online intervention to promote measurable benefits in professional satisfaction and well-being among physicians.

2. Material and methods

2.1. Study design, setting, and participants

We conducted a randomized study of practicing physicians in the Mayo Clinic Departments of Medicine in Minnesota and Arizona and Mayo Clinic Department of Surgery in Minnesota. The study was conducted over three months in the fall of 2012. Physicians were recruited through departmental communications and announcements at Medical Grand Rounds. All participants provided written informed consent and participation was voluntary. The study was approved by the Mayo Clinic Institutional Review Board.

Participants were randomized to an intervention group or a control group using a computer-generated algorithm. Randomization was stratified by specialty (Internal Medicine or Surgery), campus (Rochester or Arizona), and baseline response to the single item, "The work I do is meaningful to me" (from the Empowerment at Work Scale (Spreitzer, 1995)). All participants were asked to complete baseline and end-of-study (3 month) survey. For both surveys consented participants received an e-mailed cover letter with a link to a web-based survey.

2.2. Study arms

In addition to instruments measuring primary outcomes of changes in well-being (i.e., burnout, depression, QOL, fatigue) and professional satisfaction (i.e., job satisfaction, work engagement, meaning in work, and satisfaction with work-life balance) pre-post study (see below) participants in both intervention and control arms completed brief (3-4 question) weekly surveys. These questionnaires included 1 item assessing overall QOL, (Gudex, Dolan, Kind, & Williams, 1996; Norman, Sloan, & Wyrwich, 2004; Rummans et al., 2006) 1 item measuring fatigue, (Balch et al., 2011; Dyrbye, West et al., 2014; Dyrbye, Satele, Sloan, & Shanafelt, 2014; West, Halvorsen, Swenson, & McDonald., 2013; West, Tan, & Shanafelt, 2012; West et al., 2009, 2011) and 2 items about happiness (Fowler & Christakis 2008; Sheehan, Fifield, Reisine, & Tennen, 1995). This was done so that each group received weekly e-mails that required an activity but were not part of the primary outcome analysis. The data from responses to these 4 items were not further analyzed, as these domains were evaluated separately in the baseline and end-of-study surveys. In the same 10 weekly survey, physicians in the intervention arm also received a menu of 5-6 selfdirected micro-tasks (Fig. 1) and were asked to select and complete one task of their choosing weekly. These micro-tasks were specifiTasks were designed to cultivate well-being in one of 6 domains: meaning in work and job satisfaction, teamwork and social support, personal relationships and work-life balance, personal strengths (courage, honesty, patience, wisdom, humanity, justice, and transcendence), problem solving, and positive emotions. The menu of tasks for each week was drawn from a master list of 5 to 7 micro-tasks to create a diversity of choices and minimize redundancy.

Choose the activity of greatest interest to you to complete over the next week

- Reflect on a recent meaningful patient care experience. Take 2-3 minutes to reflect on what made this experience stand out and its impact on your work satisfaction. Consider sharing this experience with a colleague or your partner/significant other.¹
- Write and send/deliver a letter thanking a nurse, secretary, or other ancillary personnel for a specific way in which they have helped you in your work.²
- Plan and schedule an outing with your significant other/spouse to nurture your relationship. Make the necessary reservations/arrangements right now.³
- Think about a time when you dealt with an emotionally challenging situation at work with particular skill. What personal attributes enabled you to manage the situation well?⁴
- Identify a challenging work related experience you are currently dealing with. Reflect on how you overcame similar challenges in the past. Based on your previous experience identify an initial step you could take to deal with the issue.⁵
- Jot down 3 things that you are grateful for in your life and why you value these things. Then, think about changes you could make in your life so that you live in greater accordance with what you value most.⁶
 - ¹ Theme: promote meaning in work and job satisfaction
 - ² Theme: teamwork and social support at work
 - ³ Theme: personal relationships/work-life balance
 - ⁴ Theme: recognizing/developing personal strengths
 - ⁵ Theme: problem solving
 - ⁶ Theme: positive emotions

Fig. 1. Example of weekly menu of micro-tasks sent to participants in the intervention arm.

cally crafted for physicians and intentionally designed to cultivate professional satisfaction and well-being in one of 6 domains:

- Promote meaning in work and job satisfaction,
- Foster teamwork and social support at work,
- Nurture personal relationships and work-life balance,
- Recognize and build on personal strengths (courage, honesty, patience, wisdom, humanity, justice, and transcendence),
- Encourage effective problem solving, and
- Promote positive emotions.

These 6 themes were informed by a robust literature on physician career satisfaction, well-being, positive psychology, and mindfulness (Brunwasser, Gillham, & Kim, 2009; Krasner et al., 2009; Lyubomirksy, 2008; Shapria & Mongrain, 2010). The tasks were deliberately chosen to resonate with physicians in practice, be easily implemented, and promote a positive culture within which physicians can thrive. Each activity took less than 5 min to complete and could be done while at work. The menu of tasks for each week was drawn from a master list of 5-7 micro-tasks to create a diversity of choices and minimize redundancy. Participants in both arms of the trial were reimbursed up to \$250 for the time spent in this study, pro-rated depending on participation. Participants who completed the baseline and 3-month survey within 4 days of the survey being sent from the survey research center received \$25 for each survey. Participants received \$20 for completion of the weekly surveys within 4 days of them being sent from the survey research center. Receipt of remuneration depended only on timely completion of the surveys, and did not depend on completion of other activities.

2.3. Study outcomes

Study participants completed standardized instruments to measure professional satisfaction (Schaufeli & Bakker, 2003; Spreitzer, 1995; Williams et al., 1999) and well-being (Maslach, 1986; Download English Version:

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