



## A randomized trial of ACT bibliotherapy on the mental health of K-12 teachers and staff

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### ABSTRACT

The mental health challenges of some vocations present a challenge for current intervention models. Bibliotherapy focused on transdiagnostic processes that might both prevent and alleviate a range of mental health distress could be an effective and practical approach. K-12 school personnel ( $N = 236$ ; 91% female; 30–60 years old) responding to a wellness-oriented program announcement were randomized to receive an Acceptance and Commitment Therapy (ACT) self-help volume or to a waitlist. Three-fourths were above clinical cutoffs in general mental health, depression, anxiety, or stress. Participants read the book for two months, completed exercises and quizzes, and after post assessment were followed for 10 weeks; waitlist participants were then also given the book with two months to complete it. Overall, participants showed significant improvement in psychological health. Significant preventive effects for depression and anxiety were observed along with significant ameliorative effects for those in the clinical ranges of depression, anxiety and stress. Follow up general mental health, depression, and anxiety outcomes were related to the manner in which participants used the workbook and to post levels of psychological flexibility.

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Psychological distress is pervasive in the workplace yet remains largely untreated (Hilton et al., 2008). Some work settings are particularly stressful, producing relatively high rates of mental and other health problems. For example, teachers and other education workers show high rates of depression, anxiety, and stress-related health problems (Madden-Szeszko, 2000; Rovero, 2004). Because the needs of over seven million teachers in the United States are extensive, varied, and require both treatment and prevention, it is difficult to meet them entirely through conventional mental health care delivery methods with the resources at hand; (United States Census Bureau, 2011). In addition, employers tend to stigmatize mental health care (Glozier, 1998), and employees believe that mental health related stigma may impact employment (e.g., Angermeyer, Beck, Dietrich, & Holzinger, 2004; Roeloffs et al., 2003), limiting participation in mental health programs (Pyne et al., 2004). These concerns may be heightened for those working directly with children, such as those in the K-12 workforce.

Wellness or other support programs for teachers and school personnel are a way that school districts have attempted to prevent and alleviate psychological distress (Emener, 2009), but most of these programs emphasize physical methods such as exercise or relaxation over cognitive behavior therapy or other empirically

supported methods focused more directly on mental health (Couser, 2008). Furthermore, few are empirically evaluated (Parks & Steelman, 2008) and those that are vary in their effectiveness (Webber, Johnson, Rose, & Rice, 2007).

One possibly effective approach would be bibliotherapy. Bibliotherapy has practical advantages as a worksite mental health intervention (Couser, 2008) since materials can be delivered at low cost and in some cases can produce notable clinical impact (see Den Boer, Wiersma, & Van Den Bosch, 2004 and Gregory, Schwer Canning, Lee, & Wise, 2004 for recent meta-analyses). Worksite bibliotherapy could also reduce or eliminate possible stigmatization, particularly if the material also has preventive utility, and thus could be broadly disseminated without pre-identifying employees at risk for mental health problems. This inclusive strategy has been effective in worksite stress reduction (McLeroy, Green, Mullen, & Foshee, 1984) or mental health psychoeducation classes (Williams, 2006).

Bibliotherapy would be especially applicable to worksite populations if it could be shown to move transdiagnostic processes that have broad preventive and ameliorative impact for a wide variety of mental health problems. Psychological flexibility processes such as increased acceptance, mindfulness, and values-based action seem to qualify as examples of common core processes that predict a variety of mental health outcomes (Chawla & Ostafin, 2007; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999)

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appear to work in part by modifying such processes (Hayes et al., 2006). When delivered face to face, ACT has been shown to impact a wide variety of mental health concerns (Ruiz, 2010) including among workers (Hayes et al., 2004; cf., Franco, Mañas, Cangas, Moreno, & Gallego, 2010).

So far as we are able to determine, the mental health impact of broadly focused bibliotherapy has never been tested in a worksite-based randomized trial. A recent study, however, showed that ACT bibliotherapy had both a preventive and ameliorative impact on the general mental health, stress, depression, and anxiety of Japanese international students (Muto, Hayes, & Jeffcoat, 2011). *Get Out of Your Mind & Into Your Life* (Hayes & Smith, 2005), which was used as the specific form of bibliotherapy, is the first general purpose ACT self-help book and is among the best selling of the two dozen or more ACT self-help books now available. The present study tests whether *Get Out of Your Mind & Into Your Life* could have preventive and ameliorative effects when delivered as part of a worksite based support program for K-12 teacher and staff, and whether gains were related to psychological flexibility.

## Method

### Participants and recruitment

The program was implemented in the Washoe Country School District (WCSD) and was approved by both the University and WCSD IRBs. Invitational emails and flyers were sent to all district personnel ( $N =$  about 6500) by the WCSD Wellness Office, whose programs promote healthy behavior among the district employees, followed by an email from the research team. The present program was one of many offered by the office. Potential participants were directed to a website where they downloaded enrollment and informed consent forms and sent them to the investigators. The purpose of the study was said to be examination of the effectiveness of a self-help version of Acceptance and Commitment Training (ACT) for improving general health, behaving congruently with expressed personal values, alleviating job burnout, and coping with stress, depression, and anxiety (in workplace settings the acronym "ACT" is commonly said to refer to Acceptance and Commitment Training in order to avoid the connotation that participants necessarily need therapy or have a mental disorder; e.g., see Hayes et al., 2004). In addition to wellness benefits, there were small financial incentives and a free book; continuing education credits needed for recertification were offered to participants who were teachers.

In order to be included, participants had to be at least 18 years of age, able to read English, able to access the internet regularly, and had to complete baseline measures. A total of 236 school district personnel enrolled, which was about twice the size needed to detect an effect size of .6 (about the average ACT effect size: Hayes et al., 2006) at 90% power (Rosenthal, Rosnow, & Rubin, 2000). Most ( $N = 215$ , 91%) of the participants were female, between the ages of 30 and 60. The majority ( $N = 147$ , 63%) held teaching positions, but the sample also included administrators ( $N = 8$ , 3.5%), counselors, psychologists and behavior analysts ( $N = 21$ , 9%); and others such as librarians, custodians, nurses, technicians, and specialists ( $N = 8$ , 19.5%). Two-thirds of the teachers enrolling (98 of 147) took advantage of the recertification credits for participating.

### Design

After pre-treatment assessment, those randomized to receive the workbook had 8 weeks to read it and to complete 6 quizzes over its content. All participants then received a post-treatment assessment and a 10-week follow-up assessment. This constitutes the primary and fully balanced part of the randomized trial. After

follow up, those in the waitlist condition were given the workbook, and after 8 weeks to read it and complete quizzes, these participants were re-assessed. This design addition allows a replication of the pre to post impact of the workbook in both arms of the study.

### Measurement

Individual emails with coded links were sent to participants to complete questionnaires or quizzes. All measures and quizzes were presented online (and thus blind) using Survey Monkey [www.surveymonkey.com](http://www.surveymonkey.com); in general presenting questionnaire online does not appear to alter their psychometric soundness (Hedman et al., 2010; Read, Farrow, Jaanimägi, & Ouimette, 2009). In addition to a pre-treatment demographic questionnaire, participants were asked at post-treatment and follow-up about the extent of their reading and use of the workbook. Incentives were not contingent on the self-reported compliance, lowering the risk of invalid reporting, and compliance was further assessed by completion of quizzes. Six different online quizzes were administered and taken at the pace set by each participant as the book was read. Each included 10 items relevant to either two or three chapters of the book, depending on the specific quiz. Quizzes were given to assess objective understanding of book content, and also to collect qualitative and quantitative data related to exercises within the chapters. Formal measures are reported below (all reported alpha values are from obtained scores at baseline).

### Outcome measures

The primary outcome measure was the General Health Questionnaire 12-item (GHQ-12; Goldberg & Williams, 1988;  $\alpha = .88$ ), a widely used questionnaire that measures behaviors, functioning and distress predictive of non-psychotic psychiatric disorders. The GHQ has good reliability and validity (Goldberg et al., 1997). A 4-point Likert rating was used in the present study resulting in scores that could range from 0 to 36 with higher scores indicating greater mental health difficulty. GHQ was considered the primary outcome measure because it fit with the broad focus of the intervention.

The depression, anxiety, and stress subscales of the Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995; depression  $\alpha = .90$ , anxiety  $\alpha = .81$ , stress  $\alpha = .88$ ) were used as secondary outcome measures. The DASS is a set of three 7-item, 4-point self-report scales designed to measure the negative emotional states of depression, anxiety and stress. The scales are widely used in general populations and have demonstrated high internal consistency and validity across settings (Crawford & Henry, 2003). These were treated as secondary outcomes because ameliorative effects were examined for those with elevated scores in the three areas using the cutoffs specified by the developers (Lovibond & Lovibond, 1995).

### Process measures

The most recent version of the Acceptance and Action Questionnaire (AAQ-II; Hayes et al., 2004; Bond et al., 2011;  $\alpha = .90$ ) was used. The AAQII is a 10-item 7-point Likert scale that assesses psychological flexibility, which is a general term for experiential acceptance, cognitive defusion, and values-based action targeted by ACT. The AAQ was scored so that higher scores meant greater psychological flexibility.

The Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004;  $\alpha = .87$ ) is a 39-item self-report, 5-point Likert scale with high internal consistency and test-retest reliability (Baer et al., 2004). The KIMS is used to assess 4 mindfulness skills: observing, describing, acting with awareness, and accepting without judgment. Only the overall score is reported here.

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