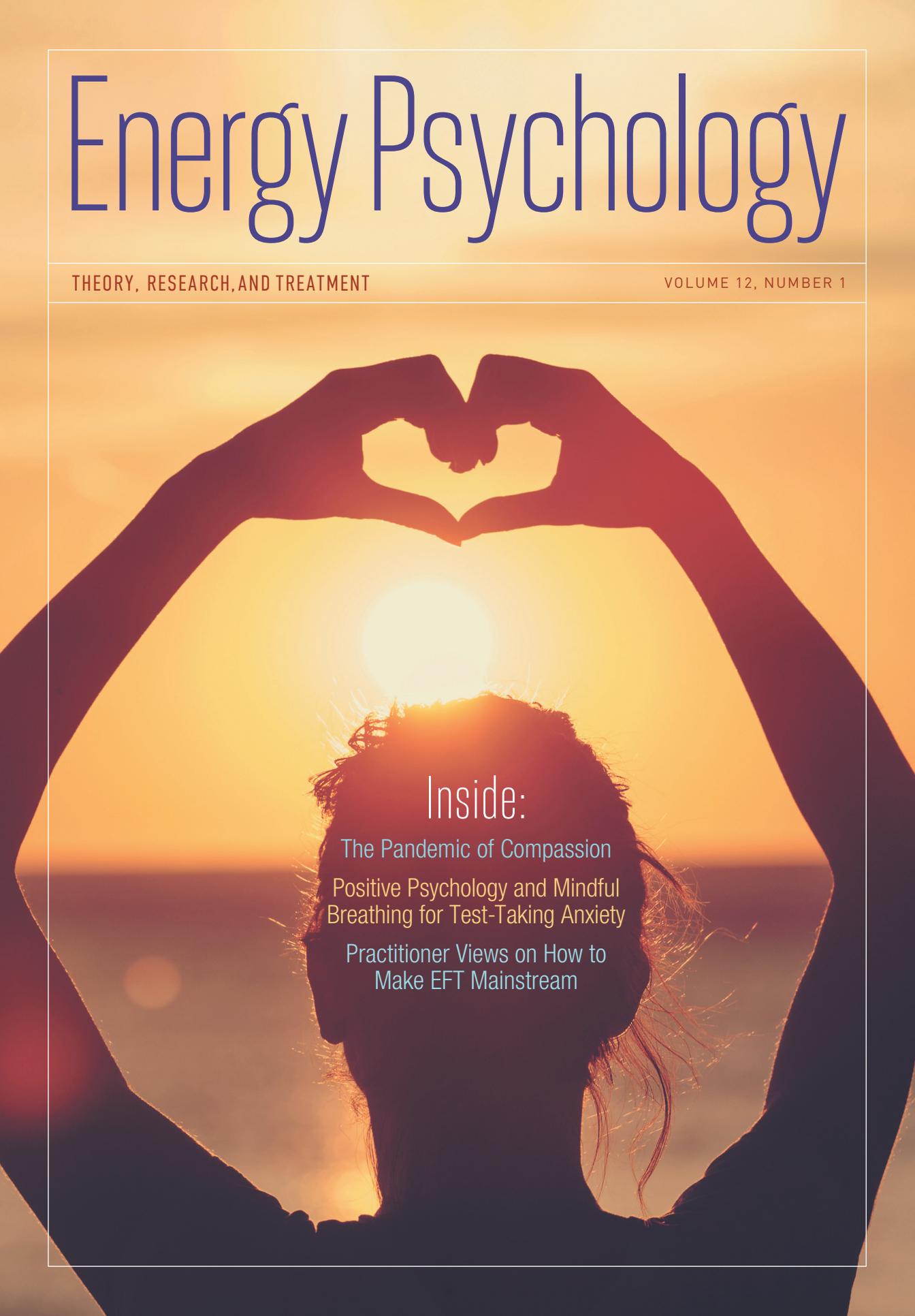


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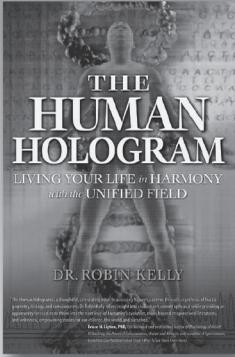
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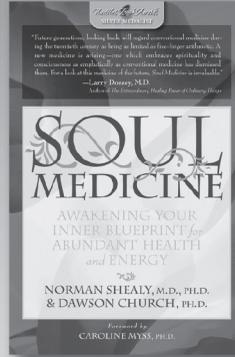
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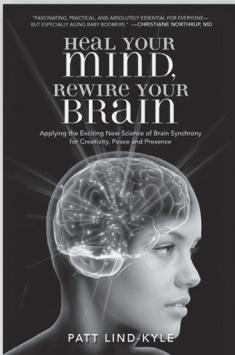
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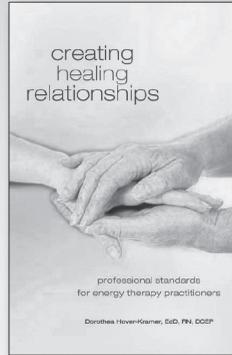
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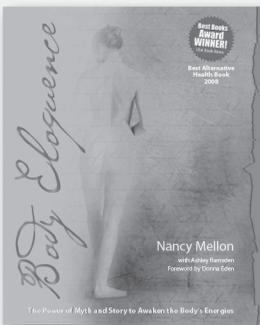
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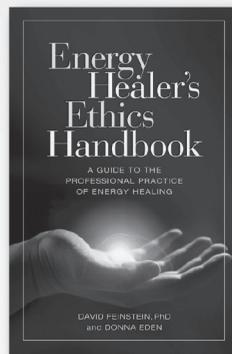


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About

ENERGY PSYCHOLOGY: THEORY, RESEARCH, AND TREATMENT

Energy Psychology (EP) is an evolving and maturing field that is rapidly meeting the standards of proof for “evidence-based” practice. Studies of EP have demonstrated its efficacy for a wide range of psychological and physical problems, from phobias to pain to posttraumatic stress disorder. EP is now being researched in hospital systems such as Britain’s National Health Service (NHS), large private hospital chains such as Kaiser Permanente and Sutter Health, and the United States Department of Veterans Affairs (VA). By providing a rigorous, high-quality, peer-reviewed platform for the publication of research results, theory, and clinical insights, this journal provides a forum for the exchange of the key discoveries and ideas that drive the EP field forward.

—Dawson Church, PhD
Editor, *Energy Psychology: Theory, Research, and Treatment*

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The Pandemic of Compassion

Dawson Church

The coronavirus pandemic and subsequent economic crash is humankind's dominant narrative for 2020. Terms like "social distancing" and "sheltering in place" were unknown in January. By March, they had become the way of life for people all over the globe.

The pandemic and crash have generated unprecedented fear, as well as exposed a range of social malaise. Hate crimes. Hoarding. Unreliable statistics. Politicians jockeying for political gain. Competition for scarce resources. Fake news. The collapse of entire industries. Huckster cures. Government incompetence. Profiteering. Unreported deaths. Lying. Exploitation of the gullible. Marginalization of the socially disadvantaged. The breakdown of medical systems.

It's easy to become cynical and paranoid when there's this much ugliness in the world. It's easy to look at the news headlines and feel panic, mistrust, and overwhelm.

Yet when you look for the positive aspects of the crisis, you can see them all around you. Ordinary people are performing daily acts of kindness in every corner of the world. Take a long view and you'll see that humankind is in the middle of what I call a pandemic of compassion.

Coronavirus by the Numbers

Near the start of an epidemic, clear statistics are hard to find. Numbers get revised as more information becomes available. The best information in early 2020 suggested that the coronavirus death rate was about 1%. That means that of every 100 people who contract the virus, one dies.

Roughly half of those who contract the virus are asymptomatic; the virus produces symptoms so mild that the infected people fail to notice them. The death rate of the elderly is high—up to 13% in some studies. Young and healthy people have a small chance of dying; by some estimates, it's about one in 400.

Faced with these odds, countries, companies, nonprofits, universities, hospitals, and research labs have been collaborating on developing vaccines

and antidotes as fast as they can. They're finding new methods to raise the level of antibodies in our immune systems. The degree of institutional cooperation on our planet today is unprecedented.

Individual Acts of Compassion

On the level of individual human action, we're witnessing daily acts of compassion. Total them and they amount to billions of deeds of kindness and self-sacrifice. Here are a few of those billions of examples:

- Health advocate Héctor Ramírez is creating a food pantry for seniors and disabled people. "As a disabled person, I am always planning for things. I feel very anxious about this...outbreak. So I decided to do something...I am going to make food boxes for my senior and disabled neighbors and deliver them to their homes," he said in a YouTube video.
- In Iran, mosques are closed to prevent the spread of the virus. Volunteers have turned some into centers where they sew face masks and assemble food hampers for those in need.
- When her elderly neighbors were too scared to visit a crowded grocery store, Rebecca Mehra did their shopping for them. Elderly people have been helped by their neighbors millions of times all over the globe. Canada has coined the term "caremongering" to describe the helping phenomenon; caremongering is the opposite in spirit and action to fear-mongering.
- A group of Japanese students whose school was closed were disappointed that they would not get to experience a graduation ceremony, so they decided to use the online game Minecraft to conduct a digital ceremony. "They spent all day online together playing games and laughing. I'm glad they all had fun," wrote one parent.

- After Houston restaurants closed their dining rooms and began offering only takeout service, an anonymous couple took action. After spending \$90 on their meal, they left a cash tip of \$1,900, with another \$7,500 on a credit card. Their note read: “Hold tip to pay your guys over the next few weeks.”
- In New Jersey, 11-year-old Jayden Perez asked his mother to buy hand sanitizers in bulk at the end of February. “He decided to donate 1,000 hand sanitizers to his local school district and an additional 150 to the police station, fire department, and public library,” she said.

When you shift your focus from the ever-present diet of bad news served up by mass media, you see an abundance of good news. Faced with a common crisis, despite the paranoia and uncertainty, billions of people are choosing caremongering over fearmongering.

Flipping the Numbers

Take that death rate of 1 in 100 and flip it around. Seen in reverse, we observe that 99% of those who contract the virus live. For those who are healthy and young, the odds are much better.

Yet with an average chance of 1 in 100 dying, people are willing to make extraordinary sacrifices for others. By the billions, ordinary people are changing their lives so that others won’t get sick.

They’re doing this at great inconvenience to themselves. They can’t move about freely. They can’t visit their friends or loved ones. They can’t go to work. Those 99 people are limiting their lives in all these ways so that one person doesn’t have to die.

That one person that they’re protecting may be somebody they don’t even know.

The one person who dies usually has another medical condition. Most of the coronavirus deaths are people who are ill already. They have conditions like diabetes, high blood pressure, cancer, and heart disease. Many are elderly, closer to the ends of their lives than the beginnings.

What we’re witnessing every day is 99 people radically restricting their lives so that one person who they don’t even know personally and is sick anyway has a lower risk of catching the virus and dying. Never before in human history have so many people willingly suffered for the sake of so few.

That’s the ratio we need to pay attention to. Faced with the overlapping crises and ugliness in the world, billions of people are defaulting to kindness.

Willing Self-Sacrifice

I coined a term for this: the pandemic of compassion.

Looking past the fear, we see a human species participating in the greatest act of collective compassion we have ever seen on planet Earth.

Ninety-nine out of 100 people are willing to lose their jobs, see entire industries disappear, confine themselves to home, lose personal contact with their neighbors, and accept the shutdown of the economy. The 99 are doing this so that one person who is sick and elderly—who they may not even know—can live.

This didn’t happen in 1300 when the Black Death swept through Europe and Asia, killing about half the population. It didn’t happen during the great flu epidemic in 1918, which killed more people than WWI. This global outpouring of compassion isn’t typical of the way that human beings have collectively responded to tragedy. In this pandemic, we’re treating every life as sacred, willing to disrupt our lives completely to protect those at risk.

Historical Mind Changes

We look back at past leaps in humankind’s moral and political evolution with admiration. For instance, consider the wave of democracy that swept the globe from 1750 to 1850. For thousands of years before that, people had been ruled by monarchs, oligarchs, cabals, religious fanatics, strongmen, and other forms of unrepresentative government. Suddenly, within 100 years, we changed our collective minds. Democracy became the norm rather than the exception.

The same global mind change happened in the case of slavery. Between roughly 1790 and 1870, in less than 100 years, we as a human species collectively changed our minds about the propriety of enslaving other people. Slavery had been normal for millions of years. Suddenly, in less than a century, we changed our minds, and it was gone.

In 1890, women could not vote in any country in the world. For the recorded history of the species, the political voice of one half of the

entire human population went unheard. Then we changed our collective minds. Between 1893 and 1920, country after country gave women the vote.

There were many reasons for these positive social upheavals. Compassion played a major role. People who had all the power—kings, slaveholders, men—were able to imagine the suffering of those who were disenfranchised. The mighty had no incentive to share their power, but they did anyway.

Other factors such as fear, self-interest, and political advantage certainly played a role in these changes. But to see the changes only in those terms ignores the altruism that runs so strongly through our species. Compassion opened the door. To be able to put yourself in the shoes of someone less fortunate than yourself, voluntarily share your power, and take action to care for them, seeing you and me in the circle of “we,” is a remarkable shift in human behavior.

When One Day We Look Back

When in time you tell your grandchildren about 2020, you’ll remember the fear and chaos. You’re also likely to see it as a turning point in the evolution of human values.

You’ll remember your own personal acts of compassion. The elderly neighbor for whom you bought groceries. The fearful friend for whom you stumbled for comforting words. The panicked small business owner whose loan application you helped prepare. The child at whom you smiled, reassuring her that all is well. You’ll recall the people you helped and the inconveniences you endured for others.

You’ll remember the acts of compassion done to you and for you. The nurse whose smiling mouth you couldn’t see behind her mask, but whose eyelids crinkled with warmth. The stranger who moved to the opposite sidewalk when you crossed paths, but gave you a grinning “hi” to celebrate your shared humanity. The researcher who slept on a cot in his lab, working 80-hour weeks while seeking a cure. The people who mailed your prescriptions and stocked the shelves of your neighborhood grocery store.

When you look back on this time, you might well remember the pandemic of compassion, and declare with me: This may have been the noblest hour in the history of our species.

Group-Based Interventions and Test-Taking Anxiety in Male College Students of Varied Ethnicities: The Effect of Positive Psychology Versus Mindful Diaphragmatic Breathing

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Abstract

Purpose: The aim of this experimental study was to investigate the post-intervention effects of group-based positive psychology and mindful diaphragmatic breathing on anxiety and test-taking success in male college students.

Method: A randomized controlled trial (RCT) was conducted across the undergraduate male students at a university in Montana. Participants (aged 18–32 years) were randomly assigned to two intervention groups (mindfulness and positive psychology) and a control (delayed intervention) group. The study included a group of 34 male participants with 10 in the mindfulness group, 12 in the positive psychology group, and 12 in the waiting group. Both intervention programs consisted of five 120-minute group sessions delivered over 10 weeks. All three groups were required to complete an assessment prior to the interventions and a second assessment after the interventions (mindfulness and positive psychology) or the waiting time (control group) were completed. The control group also received five 120-minute interventions after all measurements were taken. The constructs of self-care, test anxiety, and anxiety symptomatology were measured.

Results: There were no significant baseline differences between the three groups on the

demographic and dependent variables. The results showed no significant differences between the two intervention groups' and the control group's self-care pre and post scores. Results showed a significant difference between the treatment groups' and control group's scores on pretest and posttest in test anxiety. The results showed a significant difference between the two intervention groups' and control group's scores on pretest and posttest in total anxiety. Anxiety levels were noted to be different for ethnic groups. An explanation for observed differences in race is discussed.

Conclusion: The study does not provide evidence that mindfulness and positive psychology interventions can reduce test anxiety significantly. The results show a significant difference between the two intervention groups' and control group's scores on pretest and posttest in total anxiety. Importantly, descriptive analysis has shown a positive impact on test anxiety and total anxiety in participants of varied ethnic groups.

Keywords: anxiety, test anxiety, college students, academic achievement

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Anxiety is a common condition in undergraduate students. Fletcher, Bryden, Schneider, Dawson, and Vandermeer (2007) investigated the particular needs of students; faculty and staff members reported that students struggle with a wide range of issues such as anxiety, anger, and depression but are often resistant to using on-campus services. Auerbach et al. (2018) reported initial results from the World Health Organization (WHO) World Mental Health International College Student project that investigated the prevalence of common mental health disorders among first-year college students in 19 colleges across eight countries. The results showed that roughly one third of participants reported at least anxiety, mood, or substance disorder. A study overseen by Pennsylvania State University investigated 140 universities with over 100,000 students and found that the largest mental health concern is anxiety (CCMH, 2015). Walters, Bulmer, Troiano, Obiaka, and Bonhomme (2018) found that anxiety in college students was unrelated to substance use whereas depression and substance use were correlated. Eisenberg, Hunt, and Speer (2013) administered online surveys to 26 campuses to estimate the prevalence of mental health problems among college students in the United States. The results of 14,175 completed surveys showed a prevalence of 7% for generalized anxiety in college students.

The prevalence of anxiety has increased due to major changes in social and economic areas that make current life increasingly more competitive. Many parents put a lot of pressure on their children in hopes that they will climb high in their career and this can have a negative impact on students' academic anxiety (Pandey & Ahmad, 2008). Likewise, students in the university environment face changes that require them to adapt and integrate into a new environment, generating higher levels of anxiety (Pereira & Lourenço, 2012). Researchers investigated the social anxiety and coping strategies among college students in India and found that males had higher social anxiety than females (Debbarma & Umadevi, 2019).

Anxiety is generally defined as an emotional state of feeling tension and apprehension that affects the nervous system (Spielberger & Vagg, 1995). Anxiety can negatively impact the adaptation process of college students and reduce their

ability to concentrate. Other factors that contribute significantly to personal and academic development such as applying social skills and practicing assertive behaviors are diminished when anxiety is present (Brandtner & Bardagi, 2009).

As a separate anxiety construct, test anxiety is specific to instances of evaluation that are common to the academic environment (Chamberlain, Daly, & Spalding, 2011). Different factors may influence students' test anxiety. For instance, the Programme for International Student Assessment (PISA) investigated 761,655 students across 68 nations and found reduced mathematics anxiety in participants from economically developed and more gender equal countries (Stoet, Bailey, Moore, & Geary, 2016). A study about gender and academic achievements of college students in Pakistan showed that 30.7% of undergraduate students experience test anxiety, with 44.9% of male students having test anxiety compared to 27% of female students. The study also showed that female students performed better academically than male students (Ahmad, Hussain, & Khan, 2018).

About 10 million students at schools and about 20% of university students in the United States experience anxiety particular to test taking (Chapell et al., 2005). A study investigated medical students' test anxiety and found that 22% of participants experienced high test anxiety (Green, Angoff, & Encandela, 2016). However, test anxiety appears to be a common problem for students at all colleges. Academic achievement and performance are often measured through tests or formal assessments in an educational setting. The *Diagnostic and Statistical Manual of Disorders (DSM-5)* identifies performance anxiety as a specifier under a diagnosis of social anxiety disorder, particular to someone performing in a public setting (APA, 2013). Research has suggested different forms or phases of test anxiety, including "pre-exam anxiety" and "exam-day anxiety" (Chamberlain et al., 2011). Furthermore, test anxiety has been identified as both worry related to test outcome and distress over reactions produced by the test environment itself (Ahmad et al., 2018). Test anxiety is present through different stages of the learning process, including test preparation, test performance, and test reflection (Thomas, Cassady, & Heller, 2017).

While a small amount of stress is healthy and useful, high stress levels can alter judgment and generate physiological symptoms such as

nausea, rapid heart rate, and excessive perspiration (Manansingh, Tatum, & Morote, 2019). Potential impacts of test anxiety include impaired or inaccurate measurement of knowledge and skill, decreased academic performance, and poor overall academic outcomes. Poor academic achievement is often related to anxiety and makes dropping out more likely (Onyeizugbo, 2010). A study in Denmark explored the prevalence of dropout as well as a correlation between poor mental health and dropout in students. The researchers found no significant differences in dropout among student gender, age group, or ethnic group. However, the correlation between dropout and poor mental health was five times stronger among male students compared to female students in higher education. Despite constantly rising enrollment rates in U.S. universities, high dropout rates and weak academic performance remain persistent challenges among undergraduates (Lloyd, Tienda, & Zajacova, 2002).

Self-care strategies such as mindfulness techniques or relaxation music are becoming more common in society. The self-care model by Orem supposes that some college students may struggle with meeting some of their universal self-care fundamentals such as (1) sustaining a balance between action and relaxation, (2) keeping a balance between aloneness and social life, (3) avoidance of risks related to college life, and (4) developing a realistic self-concept and being active to foster personal growth (Renpenning & Taylor, 2003). Self-care is also defined as a multidimensional concept of health behavior, which includes nutrition, spiritual development, social relationships, physical activity, health care, and dealing with stress (Pender, Murdaugh, & Parsons, 2010).

A study about gender differences in individuals with chronic heart failure found that men had more than quadruple the risk of poor self-care compared to women; however, men showed higher self-care confidence than women (Dellafiore et al., 2018). These gender differences may also be influenced by cultural backgrounds of individuals, and thus, gender-specific counseling interventions may be beneficial. Although there is some research on applying models of self-care in nursing, there is a lack of research on group interventions to address self-care, anxiety, and test anxiety in male college students.

A broad range of studies have examined the role of mindfulness and relaxation techniques in undergraduate university students. In a qualitative study examining the influence of an eight-week

mindfulness-based stress reduction (MBSR) program for students with test anxiety, researchers found that test anxiety decreased and that participants also developed healthier patterns of functioning in everyday tasks (Hjeltnes, Binder, Moltu, & Dundas, 2015). The study identified themes conducive to improved test taking, including finding inner calm when experiencing test anxiety, reducing feelings of shame, increased focus, and increased self-acceptance in the face of difficulty. Shahidi, Akbari, and Zargar (2017) implemented an eight-week study focused on reducing test anxiety using group-delivered MBSR. This study resulted in significant reduction of many factors related to test anxiety in students. MBSR programs have been shown to be effective in helping students who suffer from academic evaluation anxiety. One study looked at anxiety reduction and increased self-confidence using MBSR interventions prior to testing and following evaluation performance to determine the lasting effects of the interventions (Dundas, Thorsheim, Hjeltnes, & Binder, 2016). Many of the students involved in the study reported continuing to practice the interventions and continued improvements in anxiety levels.

A recent study in France showed that a six-week positive psychology intervention reduced anxiety and psychological stress and enhanced mindfulness and emotion regulation strategies in participants (Antoine, Dauvier, Andreotti, & Congard, 2018). Another study investigated the effect of group counseling based on positive psychology and spirituality on trait anxiety in 187 Taiwanese college students and found that their anxiety decreased (Peng, 2015). Mindfulness interventions are a significant mediator between cognitive appraisal and resilience (Zarotti, Povah, & Simpson, 2020) and should be considered in universities to support students dealing with mental health issues such as anxiety.

A meta-analysis of the effect of positive psychology interventions on enhancing well-being included individual and group intervention studies and found that positive psychology interventions significantly improved participants' well-being (Sin & Lyubormirsky, 2009). Similarly, a meta-analysis by Bolier et al. (2013) found that positive psychology interventions enhanced well-being and reduced depressive symptoms in participants. The researchers suggested more studies in diverse populations to strengthen the evidence base for positive psychology interventions. However, the

meta-analysis did not focus only on group intervention studies but included self-help and individual intervention studies as well. To conclude, there is a lack of research on positive psychology group interventions that focus in particular on test anxiety.

Manansingh et al. (2019) used a mixed-methods design to examine the effects of relaxation techniques on nursing students' test anxiety. Students participated in a six-week program that included relaxation interventions and a focus group. Results showed a significant decrease in test anxiety. In a meta-analysis of 44 randomized controlled trials conducted to examine the efficacy of interventions for university students with test anxiety, researchers found that behavioral therapy (most commonly through relaxation techniques) was more effective than cognitive behavioral therapy (CBT) and study skills training in reducing test anxiety (Huntley et al., 2019). A study by Arch and Ayers (2013) investigated the effect of group MBSR versus CBT for anxiety and found that MBSR showed a stronger positive impact on participants with severe depressive symptoms and average anxiety sensitivity than did CBT. Imel, Baldwin, Bonus, and Maccoon (2008) explored the group effect in an eight-week MBSR program for 606 adults in 59 groups. They examined the relationship between group membership and posttreatment symptoms in MBSR. The findings showed that group membership accounted for a significant portion of variability (7%) in participant change in psychological symptoms but not in medical symptoms after controlling for pretreatment severity. The researchers suggested further research on interventions delivered in a group setting.

The current study explores factors associated with test anxiety specific to male students and whether a group delivery of mindfulness or positive psychology intervention has a positive effect on participants. The current population of interest is male college student athletes, both because of their relatively high accessibility and the importance of performance in college to career opportunities and life success. Research indicates that male college students with test anxiety perform poorer than female students with test anxiety when grade-point average is used as a measurement of performance (Ahmad et al., 2018). Other research indicates that there are gender differences in how test anxiety is experienced (Eman, Dogar,

Khalid, & Haider, 2012). A Canadian study found that 30% of male students and 46.3% of female students reported experiencing test anxiety at some point during their studies. The prevalence differed by faculty and department with students enrolled in Arts and Science and nursing students representing the highest incidence. Interestingly, one third of students reported having a negative bias about test anxiety but would not seek help for it, and 20.5% reported a belief that professors would not be able or willing to help (Gerwing, Rash, Allen Gerwing, Bramble, & Landine, 2015). This negative attitude toward mental health issues such as test anxiety reduces the ability to identify and intervene effectively in colleges. Therefore, a group setting for a gender-specific group might be perceived as less threatening and prevent or reduce test anxiety in students.

The purpose of this study is to examine whether group delivery of positive psychology intervention and mindfulness intervention of diaphragmatic breathing have an impact on male students' total anxiety and test-taking anxiety.

Hypotheses

H0 = There is no significant difference in test-anxiety scores between participants who receive group-based intervention in positive psychology or mindfulness and the control group.

H1 = There is a significant difference in test-anxiety scores between participants who receive group-based intervention in positive psychology or mindfulness and the control group.

H0 = There is no significant difference in total anxiety scores between participants who receive group-based intervention in positive psychology or mindfulness and the control group.

H2 = There is a significant difference in total anxiety scores between participants who receive group-based intervention in positive psychology or mindfulness and the control group.

Method

Participants

Convenience sampling was used for this study. The sample for this research consisted of

34 undergraduate students at a university in Montana. The student sample was generated at the beginning of the fall semester. Students were solicited to participate by posted flyers, by recruitment through professors of high-difficulty subjects, through contact with on-campus counseling and testing centers, and by word of mouth and email from student assistance offices responsible for helping test-impaired students.

Participants ranged in age from 18 to 32 years with a mean age of 18 years. Of the participants, 26 identified as “white,” three identified as “black or African American,” and five identified as “other” or “Native American and Alaskan.” Recruitment was limited to one college and therefore limited the pool of students.

Participants were randomly assigned to one of three groups: the mindfulness group, the positive psychology group, and the waiting group. Researchers created randomized cards with the numbers one, two, and three signifying the three groups. All participants were asked to select a random group assignment card by reaching into a box and drawing a card without seeing it. Ten students participated in the mindfulness group, 12 in the positive psychology group, and 12 in the waiting group. Both intervention groups consisted of five 120-minute group sessions delivered over 10 weeks. All three groups were required to complete an assessment prior to the interventions (mindfulness and positive psychology) or waiting time and a second assessment after the interventions and waiting time were completed. The waiting group also received five 120-minute interventions after all measurements were taken. Researchers provided a combination of positive psychology and mindfulness interventions in a group-based format.

Measures

Participants were asked to rate their level of self-care using a five-item Likert scale, in the areas of good nutritional practices, adequate rest, regular exercise, and relaxation practices. The authors added the five-item self-care questionnaire based on previous research on the effectiveness of a single brief intervention of Emotional Freedom Techniques (EFT) for students’ test anxiety and performance (Jain & Rubino, 2012). Self-care could influence participants’ anxiety level and thus the researchers analyzed whether self-care was at

the same level in all three groups. The questions, answered from 1 (not at all) to 5 (extremely), were as follows:

How well do you do in:

Eating a healthy, nutritionally balanced diet?

Getting adequate rest on a regular basis?

Getting a healthy amount of exercise each week?

Practicing healthy forms of relaxation on a regular basis?

The Sarason Reactions to Tests (RTT) inventory, a 40-item, Likert-style instrument was used as pretest and posttest to assess quantitatively self-reported levels of test anxiety. The goal of this instrument is to measure components of test anxiety relevant to performance impairment. Changes in anxiety scores ought to be predictive of improvements in performance scores. The RTT measures four different components that typically interfere with test-taking success: Test Irrelevant Thinking, Bodily Symptoms, Tension, and Worry. Sarason (1984) has provided a group of studies that give reliability and validity data for this scale. Cronbach’s alpha for the scale components was found to be .92, .79, .92, and .85, respectively. Validity was found to be moderate but significant, with high scores on the RTT inversely proportional to test performance.

The Symptom Assessment–45 Questionnaire (SA-45) is a brief assessment of general psychiatric symptoms (Davison et al., 1997). Nine domains assessed by SA-45 are: Anxiety, Depression, Interpersonal Sensitivity, Hostility, Obsessive-Compulsive, Psychoticism, Paranoid Ideation, Somatization, and Phobic Anxiety. SA-45 has adequate reliability and validity. Internal consistency reliabilities for the SA-45’s nine scales are in the .70s and .80s across participants (Davison et al., 1997). The SA-45 scales demonstrate adequate convergent and divergent validity (Slavin-Mulford, Perkey, Blais, Stein, & Sinclair, 2015).

Description of Group Facilitators

All group interventions were conducted by the first and second author of this research study. The first facilitator holds a PhD in counselor education and supervision and an MS in clinical psychology, as well as an MA in counseling. She is also credentialed as a Licensed Clinical Professional Counselor and holds a certificate in rehabilitation counseling. The second facilitator holds

an MS in clinical mental health counseling and is a Licensed Clinical Professional Counselor. Both group facilitators have more than five years of clinical experience and with various populations and groups.

Description of Mindfulness Intervention

The mindfulness intervention began with an introduction to the concepts of mindfulness covered in this group, including deep diaphragmatic breathing, ground surfing, present moment focus, and guided meditation. Topics of mindfulness were discussed in relevance to the physiological benefits they have for the body and anxiety responses. The deep diaphragmatic breathing protocol was introduced and then practiced during session. Group members were then provided a copy of the protocol to practice outside of the session. Each session opened with asking participants to engage in this breathing protocol.

Participants were asked to sit comfortably upright with spine lengthened, with good support behind their backs if needed, and to arrange their legs so they were comfortable and relaxed. Next, participants were asked to place one hand on their stomach and notice how much the hand on the stomach moved as they consciously slowed the breathe a little. Then participants were guided to count to 4 while inhaling, pause, then count to 4 while exhaling, and again pause. Once comfortable with that slow, easy breathing pattern, participants were then invited to bring to mind the problem they wanted to address. After bringing the problem to mind, participants were asked to assess their level of distress about the problem, from 0 (no distress) to 10 (extreme distress) using the Subjective Units of Distress (SUD) scale (Wolpe, 1958). Participants were asked to create an appropriate Reminder Phrase that would serve to keep them focused on the specific part of the problem they wanted to address and then repeat the Reminder Phrase silently with each breath for 10 breathing cycles. Distress levels were assessed again. If the same or a higher level was recognized, participants were then asked to clarify specific aspects causing distress and repeat steps until distress level decreased. This protocol was developed by the group facilitators prior to implementation.

Description of Positive Psychology Intervention

In the first session, participants were asked to make a therapeutic contract, which included elements such as regular attendance, active participation, group safety, and completion of between-session assignments. Key elements of the weekly program were introduced, including journaling, physical exercise, meditation, and music. Participants were also invited to engage in five minutes of physical exercise and five minutes of meditation per day until the next session. Participants were then asked to record in their journals their experiences of doing this and of the first session. A volunteer was selected to bring in a piece of music to share with the group at the next session. To close the session, participants were invited to say one word that expressed how they felt as the meeting ended.

The subsequent sessions began with a routine format. Sessions started with participants each saying one word to describe how they were feeling as the session began. This was followed by a guided 10-minute meditation and listening to music selected by a volunteer at the end of the previous session. The volunteer briefly explained why he selected the musical piece. There was also a review of homework assignments. The central theme of the session was then introduced by reading aloud an anecdote, poem, or passage provided by the facilitators. Participants were invited to share their responses to this opening reading. The goal of the second session was to help participants identify overlooked personal strengths. Participants were asked to rate their resilience on a scale of 0–10 before and after completing the following exercise in which the characteristics of resilient people and their own personal strengths were explored.

The exercise, like many in the program, involved participants working in pairs initially and then sharing their reflections on the exercise in a plenary group discussion. Participants selected an inspiring resilient character from a movie, book, or TV show, describing the challenges the character faced and how they demonstrated resilience. This process was then repeated twice, with the focus being first on a real person from participants' lives and then on themselves. Participants identified challenges they had faced and personal

strengths they used to overcome these challenges. During the plenary group discussion that followed this exercise, input was provided on key aspects of resilience, i.e., external support and resources, social and interpersonal skills, personal qualities, and strengths.

Participants were guided through a process of identifying and reconnecting with their unique and often overlooked core strengths. At the conclusion of the second session, participants were invited to write down each day thereafter strengths they used to overcome challenges faced that day. They were also invited to ask a trusted member of their family or social network to list the participant's strengths, and compare this list of strengths to the list of strengths they believed they have. At the conclusion of the second and subsequent sessions, a standard closing routine was followed.

Participants were invited to complete a daily five-minute meditation and a daily five-minute period of physical exercise. However, the duration of these exercises was gradually increased over the course of the program. A volunteer was identified to select a piece of music to be played at the next session. Where appropriate, there was a brief reading of a poem or piece of prose relevant to the core theme of the session. This was followed by a closing round in which participants were invited to say one word that best expressed how they felt as the group ended. This protocol was developed by the group facilitators prior to implementation.

Design and Procedures

This study was approved by the Institutional Research Board (IRB). The study meets ethical standards as required by the IRB. This study was conducted as a pretest/posttest experimental design. Participants provided all required assessment data and permissions to collect and use their responses and academic course grades through a password-protected, research-dedicated website offering information about the study. After participants provided informed consent online and completed the self-care self-assessment, the RTT (Sarason, 1984), and the SA-45 (Davison et al., 1997), they were randomly assigned to the mindfulness group, the positive psychology group, or the control group.

During the fourth week of the semester, groups 1 and 2 had five two-hour training sessions

in the use of mindfulness and in the practice of positive psychology, respectively. Group 3 served as a control, receiving no intervention in this initial phase of the study. Students in groups 1 and 2 were asked to apply their interventions during weeks 5 through 8 to assist with studying and test-taking for their most challenging, content-rich course. They were instructed to practice their learned intervention for five minutes prior to each study session and again for five minutes in the hour before taking a test.

Results

Analysis of Variance (ANOVA) found no significant baseline differences between the three groups (the 10 participants in the mindfulness group, the 12 participants in the positive psychology group, and the 12 in the control group) on the demographic and dependent variables (see Table 1).

Self-Care: Pretest and Posttest

Self-care pre and post scores were analyzed with ANOVA comparing the positive psychology group, mindfulness group, and control (see Table 2). There were no significant differences between the treatment groups' and control groups' pre and post scores.

Test Anxiety: Pretest and Posttest

The pre and post scores of reactions to tests were analyzed with ANOVA comparing the three groups of positive psychology, mindfulness, and control (see Table 3). There was a significant difference between the treatments' and control groups' scores on pretest and posttest in test anxiety. Using a post-hoc Scheffe's test, it was found that in the positive psychology group the levels of test anxiety decreased in participants who selected race as "other." There was also a decrease in the levels of test anxiety for the African American participants in the control group. There was an increase in the level of test anxiety for the participants in the mindfulness group who selected race as "white."

Total Anxiety: Pretest and Posttest

Pre and post scores were analyzed with ANOVA, comparing the three groups of positive psychology, mindfulness, and control (see Table 4).

Table 1. *Group Means and Standard Deviations for the Dependent Variable: Self-Care*

Intervention Groups		Race	Mean	Std. Deviation	N
Positive Psychology	Pre	White	2.72	0.79	9
		Other	1.75		1
		Total	2.63	0.81	10
	Post	White	2.67	0.86	9
		Other	2.50		1
		Total	2.65	0.81	10
	Total	White	2.69	0.80	18
		Other	2.13	0.53	2
		Total	2.64	0.79	20
Mindfulness Group	Pre	Native American and Alaskan	2.50	0.71	2
		White	2.50	0.75	9
		Other	2.92	0.52	3
		Total	2.59	0.68	14
	Post	Native American and Alaskan	2.63	0.18	2
		White	2.47	0.51	9
		Other	2.33	0.63	3
		Total	2.46	0.48	14
	Total	Native American and Alaskan	2.56	0.43	4
		White	2.49	0.62	18
		Other	2.63	0.61	6
		Total	2.53	0.58	28
Waiting Group	Pre	Black or African American	2.25	0.87	4
		White	2.80	0.76	5
		Other	2.00		1
		Total	2.50	0.78	10
	Post	Black or African American	2.81	0.24	4
		White	2.55	0.65	5
		Other	2.25		1
		Total	2.63	0.49	10
	Total	Black or African American	2.53	0.66	8
		White	2.68	0.68	10
		Other	2.13	0.18	2
		Total	2.56	0.64	20

There was a significant difference between the treatments' and control groups' scores on pretest and posttest. Using a post-hoc Scheffe's test, it was found that in both the intervention groups the levels of total anxiety decreased in participants who selected race as "other" or "Native American

and Alaskan." There was also a decrease in the levels of total anxiety for the African American participants in the control group. There was an increase in the level of total anxiety for the participants in the mindfulness group who selected race as "white."

Table 2. ANOVA Comparing the Three Groups (Positive Psychology, Mindfulness, and Control)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.98	15	0.20	0.40	0.97
Intercept	198.51	1	198.51	400.92	0.00
Group	0.18	2	0.09	0.18	0.84
prepost	0.27	1	0.27	0.55	0.46
race	0.70	3	0.23	0.47	0.70
Group * prepost	0.57	2	0.28	0.57	0.57
Group * race	0.96	2	0.48	0.97	0.39
prepost * race	0.75	3	0.25	0.51	0.68
Group * prepost * race	0.74	2	0.37	0.75	0.48
Error	25.75	52	0.50		
Total	477.81	68			
Corrected Total	28.73	67			

R Squared = .104 (Adjusted R Squared = -.155)

Note: Asterisks (*) show the interaction effects.

Table 3. ANOVA Comparing the Three Groups (Positive Psychology, Mindfulness, and Control)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.27	15.00	0.35	1.17	0.32
Intercept	18.94	1.00	18.94	63.11	0.00
Group	0.56	2.00	0.28	0.93	0.40
Prepost	1.06	1.00	1.06	3.54	0.07*
Race	1.47	3.00	0.49	1.64	0.19
Group * prepost	0.99	2.00	0.50	1.65	0.20
Group * race	0.46	2.00	0.23	0.77	0.47
prepost * race	3.20	3.00	1.07	3.55	0.02*
Group * prepost * race	0.28	2.00	0.14	0.47	0.63
Error	15.61	52.00	0.30		
Total	56.37	68.00			
Corrected Total	20.88	67.00			

R Squared = 0.25 (Adjusted R Squared = 0.04)

Note: Asterisks (*) show the interaction effects.

Table 4. ANOVA Comparing the Three Groups (Positive Psychology, Mindfulness, and Control)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.67	15.00	1.04	1.29	0.24
Intercept	49.36	1.00	49.36	60.95	0.00
Group	1.52	2.00	0.76	0.94	0.40
Prepost	2.93	1.00	2.93	3.62	0.06*
Race	6.02	3.00	2.01	2.48	0.07*
Group * race	2.03	2.00	1.01	1.25	0.29
prepost * race	6.08	3.00	2.03	2.50	0.07*
Group * prepost * race	1.09	2.00	0.54	0.67	0.52
Error	42.11	52.00	0.81		
Total	141.00	68.00			
Corrected Total	57.79	67.00			

Note: Asterisks (*) show the interaction effects.

Discussion

The potential impact of anxiety and in particular test anxiety is an important research area. In this experimental study, the researchers intended to explore the impact of group delivery of positive psychology intervention and the mindfulness intervention of diaphragmatic breathing on anxiety and test-taking anxiety in male college students. The results showed there was a significant difference between the two treatment groups and the control group in test anxiety. Findings confirm the research hypothesis (H1) “There is a significant difference in test-anxiety scores between participants who receive group-based intervention in positive psychology or mindfulness compared to the control group.” Nevertheless, the ethnicity of participants played a role for this particular result. Participants in the positive psychology group that identified demographically as “other” regarding race experienced decreased test anxiety. This finding could be associated with recent work by Mayorga et al. (2018) who found that acculturative stress and difficulties in emotion regulation may indirectly affect anxiety in men from a minority group such as Latinos.

Unexpectedly, participants in the control group who identified as “African American” also experienced a decrease in test anxiety before they received any intervention. This finding indicates that the outlook for a psychological intervention may have had a positive impact on African American males who are often underprepared and insecure about their academic capabilities. Wood (2011) stated that black males represent the highest dropout rate among every racial, ethnic, and gender subgroup in the United States. More than 25% of black males leave community college within their first year and 55% will have dropped out without a degree after three years. Wood describes psychological factors as the most significant negative impact on the academic success of black males. Facing discrimination and consequences such as reduced optimism to succeed may contribute to black college students leaving without completion of their college degree. The collected data in 2017 for undergraduate students who entered their studies in 2011 from the U.S. Department of Education, National Center for Education Statistics (2019) represented that gender, race, and ethnicity played a role for students’ decision whether to drop out or stay in undergraduate education.

While the status “no longer enrolled” was overall lower among females than males, race and ethnicity showed a further discrepancy in male students. For instance, the status “no longer enrolled” among male students was 24.2% for whites compared to 44.7% for blacks, 31.6% for Hispanics, 17% for Asians, 39.4% for Pacific Islanders, 43.9% for American Indian/Alaska Natives, and 31.8% for male students with two or more races (U.S. Department of Education, 2019). These data show there is a higher risk for undergraduate male students who are black to drop out of their undergraduate education.

In contrast, participants in the mindfulness group who identified as “white” reported increased scores in test anxiety. These findings are similar to those of a study by Kingery, Lathrop, Burstein, and Liu (2019) who found a significant increase in anxiety and perceived stress in psychology students after mindfulness interventions. However, the results counter previous research indicating the general effectiveness of mindfulness-based activities in decreasing test anxiety (Yamada & Victor, 2012). This is an opportunity for future research.

An explorative qualitative study by Hjeltnes et al. (2015) focused on students’ fear of failure and their experiences in a mindfulness-based stress reduction program. They found that the following five major themes were related to the students’ participation: (1) finding an inner source of calm, (2) sharing a human struggle, (3) staying focused in learning situations, (4) moving from fear to curiosity in academic learning, and (5) feeling more self-acceptance when facing difficult situations. Results of the current study may indicate that both interventions had a higher impact on psychological factors that may be more prevalent in male students from a minority group compared to the males who identified as white.

While experiencing stress in college may be related to poor psychological adjustment, racial discrimination is a risk factor for anxiety symptom distress (Clark, Anderson, Clark, & Williams, 1999) and racial discrimination is positively correlated with anxiety symptoms (Lee, Neblett Jr., & Jackson, 2015). Mouzon, Taylor, Woodward, and Chatters (2017) analyzed data from the National Survey of American Life to investigate health outcomes among people of color. The researchers used three models that were controlled for demographic variables. The first model examined the role of daily racial discrimination, the second

model investigated daily nonracial discrimination, and the third model included results from analysis of overall discrimination regardless of attribution. The findings showed that racial discrimination was associated with negative health outcomes while overall discrimination was not. A study by Sosoo, Bernard, and Neblett Jr. (2019) examined whether internalized racism moderated the correlation between racial discrimination and anxiety symptoms and found that black participants who recognized stronger levels of internalized racism experienced greater anxiety symptoms related to discrimination. These findings suggest that anxiety related to racial discrimination may influence one's internalization of dominant white culture's beliefs regarding black people, which can reduce self-acceptance.

Racial discrimination may increase anxiety because of higher levels of sensitivity in social interactions (Neblett Jr., Bernard & Banks, 2016) and decrease the willingness of African American men to share human struggles (Hammond, 2012). Gender and cultural backgrounds play a major role related to attitudes toward seeking professional counseling for mental health issues (Lindinger-Sternart, 2015). To conclude, these influencing factors may impact black male students in their ability to find an inner source of calm and stay focused in their studies and therefore the intervention with positive psychology may have impacted them more positively in comparison to white students.

Along the same line, the findings of the current study also showed a significant difference between the two intervention groups and the control group in scores of total anxiety. Therefore, the current study confirmed (H2) "There is a significant difference in total anxiety scores between participants who receive group-based intervention in positive psychology and mindfulness and the control group." The findings showed that levels of total anxiety decreased in participants who selected race as "other" or "Native American and Alaskan." There was also a decrease in levels of total anxiety for African American participants in the control group. In contrast, the level of total anxiety for participants who selected race as "white" increased in the mindfulness intervention group.

In conclusion, the results of the current study found that the interventions had a more significant impact on participants who identified themselves

as "Native American and Alaskan," "other," or "black or African American." However, the cause of this impact could not be derived from the results of this study. A study by Arbona and Jimenez (2014) found that students from diverse backgrounds reported elevated stress related to their racial and ethnic identity. In addition, the findings of the study introduce additional considerations of how male students from minority groups such as African Americans experience total and test anxiety and how other factors such as acculturation stress may influence these experiences. Therefore, successful efforts to reduce test anxiety may differ for college students from minority groups compared to white college students. A study by Williams, Chapman, Wong, and Turkheimer (2012) investigated the role of ethnic identity in symptoms of anxiety and depression in 572 university students and found that African Americans scored significantly higher on state anxiety compared to whites. There is a need for more research to identify specific factors that reduce test anxiety in minority students.

Future Research Suggestion

Replication of this study in different geographic regions will be needed to increase the external validity of these findings. The waiting group also received five 120-minute interventions after all measurements were taken. Researchers provided a combination of positive psychology and mindfulness interventions in a group-based format. Researchers could replicate this portion of the study with the combination of techniques and collect a post-assessment for the control group. This suggestion is based on the positive verbal feedback of participants in the control group.

The finding of the current study may indicate that positive psychology interventions have a major impact on acculturation stress and emotion regulation that is likely represented in males from minority groups and thus had less impact on test anxiety in males who identified as "white."

Limitations

Recruitment for the study was limited to one college in Montana. Replication of this study in different geographic regions will be needed to increase the external validity of these findings. The number of participants in the study from African

American and “other” self-reported demographics was low. The small sample size of this study can be problematic in determining the level of significance. Increasing the sample size would decrease the potential for creating the type II error of not rejecting the null hypothesis. Power is the probability of rejecting the null hypothesis when, in fact, it is false. Increasing the sample size would be one way to increase the power of the study and decrease the potential for creating the type II error of not rejecting the null hypothesis. The low sample size also limits generalization of the results.

There may have been a subject-expectancy effect, as the students may have expected a positive outcome and unconsciously have reported the expected result. As the first two authors facilitated the interventions, there is concern about the contamination of results by “allegiance bias.” Future studies should be adjusted to cancel the presumed distorting effects of allegiances (Leykin & DeRubeis, 2009).

The researchers used a convenient sample for this study. Pre-study calculation of the sample size is recommended. However, the authors of this study used a convenient sample with a small sample size. This method is perhaps the least intensive and most frequently employed in behavioral sciences (Gravetter & Forzano, 2018). It has flaws, but through quota sampling researchers can demonstrate some control over the study population. When employing convenience sampling, researchers can still ensure key representation by certain groups—for example, representation by gender, education level, or socioeconomic factors (Gravetter & Forzano, 2018).

Self-report measures have some disadvantages including biases individuals may display when reporting. Participants may use exaggerated responses or under-report symptoms in self-report measures. Some disadvantages of self-report measures include limited insight or awareness, dishonesty, lack of understanding related to questions, and difficulty measuring the response in reference to the scale presented.

Implications for Educators

Results suggest the importance of educators being aware of and attentive to the presence of text anxiety in students. Efforts by educators to identify and remediate potential effects of test anxiety are beneficial for accurate measurement and

overall student outcomes. Attention to test anxiety can improve students’ educational experience and generate more accurate educational measurements, thereby impacting student investment and student retention. Educators should also be aware of nuances in how students experience test anxiety, including differences for students in varying racial and ethnic groups.

Educators should be mindful of potential differences in the way students from varying racial and ethnic groups experience test anxiety. Educators should also be mindful of varying responses to remediation strategies for test anxiety based on students’ racial and ethnic background. Educators can choose to employ different, research-based, and culturally sensitive remediation strategies for test anxiety. Increased awareness of educators allows for improved remediation and advocacy in the area of test anxiety. Educators can consult with administrators, students, and parents to encourage adaptation and implementation of useful remediation strategies.

Implication for Professional Counselors

The implications from this study provide counselors with new perspectives on diverse clients, potential benefits, and some potential problems when utilizing mindfulness and positive psychology for the reduction of test anxiety. Counselors may be able to further help clients from a diverse or minority background by introducing mindfulness and positive psychology strategies combined with traditional counseling perspectives. Information gathered in this study provides evidence that non-white, college-aged males are responsive to positive psychology strategies for reduction of stress and anxiety. The research study may help counselors working in a university setting to assist students in reducing anxiety by proactively incorporating these concepts into sessions and classrooms. Counselors may benefit from being trained in and understanding the impact of mindfulness and positive psychology on clients struggling with test anxiety and overall anxiety.

The research study provides insight into some of the potential benefits for minority students who may be struggling with test anxiety and overall anxiety. However, it is important to consider that students who identify as white may not necessarily benefit from these strategies. When choosing

theory-based therapies to implement, counselors can be mindful of client diversity, racial background, and the evidence base for better symptom reduction.

Counselors should consider the benefits of group protocols when implementing positive psychology and mindfulness strategies when working with non-white clients. Group delivery methods of stress reduction have the potential to reach more people who display similar difficulties. In a meta-analytic review of group efficacy, Burlingame, Fuhrman, and Mosier (2003) found that group delivery methods outperformed control groups and minimal treatment in a majority of studies reviewed.

College counselors working with minority groups have the potential to help these individuals improve their overall anxiety levels and academic experience by implementing strategies from mindfulness or positive psychology. A study by Sass et al. (2019) found that a brief mindfulness group intervention decreased psychological distress, anxious arousal, and worry. These results show that mindfulness interventions may be a preventative strategy for non-treatment-seeking university students in reducing mental health symptoms.

This research study provides counselors with a basis to research further and understand the potential for increased anxiety in white, college-aged male students with positive psychology and mindfulness strategies. Some findings in this study may provide counselors a new perspective for rating effectiveness of mindfulness and positive psychology interventions with clients in session to determine whether specific interventions are helpful or worsening symptoms of test anxiety and overall anxiety levels.

Conclusion

Educators should be mindful of potential differences in the way students from varying racial and ethnic groups experience test anxiety. Educators should also be mindful of varying responses to remediation strategies for test anxiety based on students' racial and ethnic backgrounds. This study offers evidence that group deliveries of both mindfulness and positive psychology impacted anxiety and test anxiety positively. There was a significant difference between the treatments' and control groups' scores on pretest and posttest in

test anxiety and total anxiety. In addition, there were some interesting findings regarding the positive effect on test anxiety and total anxiety in students of varied ethnic groups. The researchers of the current study found that the levels of test anxiety decreased in the positive psychology group for students who identified their race as "other." African American participants in the control group reported decreased levels of test anxiety without an intervention. In contrast, there was an increase in levels of test anxiety in students who identified as "white."

The particular results related to total anxiety showed a decrease in both group intervention groups in participants who identified as "other" or "Native American and Alaskan." The results showed an increase of total anxiety in participants in the mindfulness group who identified as "white."

The current study shows the different effects of group delivery in positive psychology and mindfulness on participants with different backgrounds. The challenge for clinicians, educators, and researchers will be to develop programs that reach all students, recognizing and embracing the unique needs of ethnic groups.

References

- Ahmad, N., Hussain, S., & Khan, F. N. (2018). Test anxiety: Gender and academic achievements of university students. *Journal of Postgraduate Medical Institute (Peshawar-Pakistan)*, 32(3), 295–300.
- American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.
- Antoine, P., Dauvier, B., Andreotti, E., & Congard, A. (2018). Individual differences in the effects of a positive psychology intervention: Applied psychology. *Personality and Individual Differences*, 122, 140–147. doi:10.1016/j.paid.2017.10.024
- Arbona, C., & Jimenez, C. (2014). Minority stress, ethnic identity, and depression among Latino/a college students. *Journal of Counseling Psychology*, 61(1), 162–168. doi:10.1037/a0034914
- Arch, J. J., & Ayers, C. R. (2013). Which treatment worked better for whom? Moderators of group cognitive behavioral therapy versus adapted mindfulness-based stress reduction for anxiety disorders. *Behaviour Research and Therapy*, 51(8), 434–442. doi:10.1016/j.brat.2013.04.004
- Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., . . . Kessler, R. C. (2018). WHO world mental health surveys international college student project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology*, 127(7), 623–638. doi:10.1037/abn0000362
- Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions:

- A meta-analysis of randomized controlled studies. *BMC Public Health*, 13(1), 119. doi:10.1186/1471-2458-13-119
- Brandtner, M., & Bardagi, M. (2009). Sintomatologia de depressão e ansiedade em estudantes de uma universidade privada do Rio Grande do Sul. *Revista Interinstitucional de Psicologia*, 2(2), 81–91.
- Burlingame, G. M., Fuhrman, A., & Mosier, J. (2003). The differential effectiveness of group psychotherapy: A meta-analytic perspective. *Group Dynamics: Theory, Research, and Practice*, 7(1), 3. doi:10.1037/1089-2699.7.1.3
- Center for Collegiate Mental Health (CCMH). (2015, January). *2014 Annual Report* (Publication No. STA 15-30). University Park, PA: CCMH/Penn State University. Retrieved from <https://ccmh.psu.edu/files/2017/10/2014-CCMH-Annual-Report-w4xqtb.pdf>
- Chamberlain, S., Daly, A., & Spalding, V. (2011). The fear factor: Students' experiences of test anxiety when taking A-level examinations. *Pastoral Care in Education*, 29(3), 193–205. doi:10.1080/02643944.2011.599856
- Chapell, M. S., Blanding, Z. B., Siverstein, M. E., Takashi, M. N. B., Newman, B., Gubi, A., & McCain, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, 97(2), 268–274. doi:10.1037/0022-0663.97.2.268
- Clark, R., Anderson, N., Clark, V., & Williams, D. (1999). Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist*, 54(10), 805–816. doi:10.1037/0003-066X.54.10.805
- Davison, M. L., Bershadsky, B., Bieber, J., Silversmith, D., Maruish, M. E., & Kane, R. L. (1997). Development of a brief, multidimensional, self-report instrument for treatment outcomes assessment in psychiatric settings: Preliminary findings. *Assessment*, 4, 259–275. doi:10.1177/107319119700400306
- Debbarma, R., & Umadevi, G. (2019). Social anxiety and coping strategies among college students. *Indian Journal of Health & Wellbeing*, 10(7–9), 221–223.
- Dellafiore, F., Arrigoni, C., Pittella, F., Conte, G., Magon, A., & Caruso, R. (2018). Paradox of self-care gender differences among Italian patients with chronic heart failure: Findings from a real-world cross-sectional study. *BMJ Open*, 8(9), e021966. doi:10.1136/bmjopen-2018-021966
- Dundas, I., Thorsheim, T., Hjeltnes, A., & Binder, P. E. (2016). Mindfulness based stress reduction for academic evaluation anxiety: A naturalistic longitudinal study. *Journal of College Student Psychotherapy*, 30(2), 114–131. doi:10.1080/87568225.2016.1140988
- Eisenberg, D., Hunt, J., & Speer, N. (2013). Mental health in American colleges and universities: Variation across student subgroups and across campuses. *Journal of Nervous and Mental Disease*, 201(1), 60–67. doi:10.1097/NMD.0b013e31827ab077
- Eman, S., Dogar, I. A., Khalid, M., & Haider, N. (2012). Gender differences in test anxiety and examination stress. *Journal of Pakistan Psychiatric Society*, 9(2), 85–90.
- Fletcher, P. C., Bryden, P. J., Schneider, M. A., Dawson, K. A., & Vandermeer, A. (2007). Health issues and service utilization of university students: Experiences, practices and perceptions of students, staff and faculty. *College Student Journal*, 41(2), 482–493.
- Gerwing, T. G., Rash, J. A., Allen Gerwing, A. M., Bramble, B., & Landine, J. (2015). Perceptions and incidence of test anxiety. *Canadian Journal for the Scholarship of Teaching and Learning*, 6(3), 3.
- Gravetter, F. J., & Forzano, L.-A. B. (2018). *Research methods for the behavioral sciences*. Boston, MA: Cengage.
- Green, M., Angoff, N., & Encandela, J. (2016). Test anxiety and United States Medical Licensing Examination scores. *Clinical Teacher*, 13(2), 142–146. doi:10.1111/tct.12386
- Hammond, W. P. (2012). Taking it like a man: Masculine role norms as moderators of the racial discrimination depressive symptoms association among African American men. *American Journal of Public Health*, 102, S232–S241. doi:10.2105/AJPH.2011.300485
- Hjeltnes, A., Binder, P.-E., Moltu, C., & Dundas, I. (2015). Facing the fear of failure: An explorative qualitative study of client experiences in a mindfulness-based stress reduction program for university students with academic evaluation anxiety. *International Journal of Qualitative Studies on Health and Well-Being*, 10(1), 27990. doi:10.3402/qhw.v10.27990
- Huntley, C., Young, B., Temple, J., Longworth, M., Smith, C., Jha, V., & Fisher, P. (2019). The efficacy of interventions for test-anxious university students: A meta-analysis of randomized controlled trials. *Journal of Anxiety Disorders*, 63, 36–50. doi:10.1016/j.janxdis.2019.01.007
- Imel, Z., Baldwin, S., Bonus, K., & Maccoon, D. (2008). Beyond the individual: Group effects in mindfulness-based stress reduction. *Psychotherapy Research: Journal of the Society for Psychotherapy Research*, 18(6), 735–742. doi:10.1080/10503300802326038
- Jain, S., & Rubino, A. (2012). The effectiveness of Emotional Freedom Techniques for optimal test performance. *Energy Psychology: Theory, Research, and Treatment*, 4(2), 15–25. doi:10.9769.EPJ.2012.4.2.SJ
- Kingery, J. N., Lathrop, J. A., Burstein, S. M., & Liu, M. (2019). Mindfulness practices in a developmental psychology class: Student outcomes, practical strategies, and future directions. *Scholarship of Teaching and Learning in Psychology*, 5(4), 305–311. doi:10.1037/stl0000148
- Lee, D. B., Neblett, E. W., Jr., & Jackson, V. (2015). The role of optimism and religious involvement in the association between race-related stress and anxiety symptomatology. *Journal of Black Psychology*, 41(3), 221–246. doi:10.1177/0095798414522297
- Leykin, Y., & DeRubeis, R. J. (2009). Allegiance in psychotherapy outcome research: Separating association from bias. *Clinical Psychology: Science and Practice*, 16(1), 54–65. doi:10.1111/j.1468-2850.2009.01143.x
- Lindinger-Sternart, S. (2015). Help-seeking behaviors of men for mental health and the impact of diverse cultural backgrounds. *International Journal of Social Science Studies*, 3(1), 1–6. doi:10.11114/ijsss.v3i1.519
- Lloyd, K. M., Tienda, M., & Zajaçova, A. (2002). Trends in educational achievement of minority students since Brown v. Board of Education. In T. Ready, C. Edley Jr., & C. E. Snow (Eds.), *Achieving high educational standards for all: Conference summary* (pp. 148–182). Washington, DC: National Academy Press.
- Manansingh, S., Tatum, S. L., & Morote, E.-S. (2019). Effects of relaxation techniques on nursing students' academic stress and test anxiety. *Journal of Nursing Education*, 58(9), 534–537. doi:10.3928/01484834-20190819-07
- Mayorga, N. A., Jardin, C., Bakhshaie, J., Garey, L., Viana, A. G., Cardoso, J. B., & Zvolensky, M. (2018). Acculturative

- stress, emotion regulation, and affective symptomatology among Latino/a college students. *Journal of Counseling Psychology*, 65(2), 247–258. doi:10.1037/cou0000263
- Mouzon, D. M., Taylor, R. J., Woodward, A., & Chatters, L. M. (2017). Everyday racial discrimination, everyday non-racial discrimination, and physical health among African Americans. *Journal of Ethnic & Cultural Diversity in Social Work*, 26(1–2), 68–80. doi:10.1080/15313204.2016.1187103
- Neblett, E. W., Jr., Bernard, D. L., & Banks, K. H. (2016). The moderating roles of gender and socioeconomic status in the association between racial discrimination and psychological adjustment. *Cognitive and Behavioral Practice*, 23(3), 385–397. doi:10.1016/j.cbpra.2016.05.002
- Onyeizugbo, E. U. (2010). Self-efficacy and test anxiety as correlates of academic performance. *Journal of Educational Research*, 1(10), 477–480.
- Pandey, S. N., & Ahmad, M. F. (2008). Significance of difference between male and female adolescents on academic motivation, intelligence and socioeconomic status. *Journal of Community Guidance and Research*, 25(1), 34–39.
- Pender, N. J., Murdaugh, C., L., & Parsons M. A. (2010). *Health promotion in nursing practice*. Upper Saddle River, NJ: Prentice Hall.
- Peng, H. (2015). Infusing positive psychology with spirituality in a strength-based group career counseling to evaluate college students' state anxiety. *International Journal of Psychological Studies*, 7(1), 75.
- Pereira, S. M., & Lourenço, L. M. (2012). O estudo bibliométrico do transtorno de ansiedade social em universitários. *Arquivos Brasileiros de Psicologia*, 64(1), 47–62.
- Renpenning, K., & Taylor, S. (Eds.). (2003). *Self-care theory in nursing: Selected papers of Dorothea Orem*. Retrieved from <https://ebookcentral.proquest.com>
- Sarason, I. G. (1984). Stress, anxiety, and cognitive interference: Reactions to tests. *Journal of Personality and Social Psychology*, 46(4), 929–938. doi:10.1037//0022-3514.46.4.929
- Sass, S. M., Early, L. M., Long, L., Burke, A., Gwinn, D., & Miller, P. (2019). A brief mindfulness intervention reduces depression, increases nonjudgment, and speeds processing of emotional and neutral stimuli. *Mental Health and Prevention*, 13, 58–67. doi:10.1016/j.mhp.2018.12.002
- Shahidi, S., Akbari, H., & Zargar, F. (2017). Effectiveness of mindfulness-based stress reduction on emotion regulation and test anxiety in female high school students. *Journal of Education and Health Promotion*, 6, 87. doi:10.4103/jehp.jehp_98_16
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, 65(5), 467–487. doi:10.1002/jclp.20593
- Slavin-Mulford, J., Perkey, H., Blais, M., Stein, M., & Sinclair, S. (2015). External validity of the Symptom Assessment–45 Questionnaire (SA-45) in a clinical sample. *Comprehensive Psychiatry*, 58, 205–212. doi:10.1016/j.comppsy.2014.12.007
- Sosoo, E. E., Bernard, D. L., & Neblett, E. W., Jr. (2019). The influence of internalized racism on the relationship between discrimination and anxiety. *Cultural Diversity and Ethnic Minority Psychology*. doi:10.1037/cdp0000320
- Spielberger, C. D., & Vagg, P. R. (1995). Test anxiety: A transactional process model. In C. D. Spielberger & P. R. Vagg (Eds.), *Test anxiety: Theory, assessment, and treatment* (pp. 1–14). Washington, DC: Taylor and Francis.
- Stoet, G., Bailey, D. H., Moore, A. M., & Geary, D. C. (2016). Countries with higher levels of gender equality show larger national sex differences in mathematics anxiety and relatively lower parental mathematics valuation for girls. *PLoS ONE*, 11(4), 1–24. doi:10.1371/journal.pone.0153857
- Thomas, C. L., Cassady, J. C., & Heller, M. L. (2017). The influence of emotional intelligence, cognitive test anxiety, and coping strategies on undergraduate academic performance. *Learning and Individual Differences*, 55, 40–48. doi:10.1016/j.lindif.2017.03.001
- U.S. Department of Education, National Center for Education Statistics. (2019). *The condition of education 2019* (NCES 2019-144), Undergraduate retention and graduation rates. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=40>
- Walters, K. S., Bulmer, S. M., Troiano, P. F., Obiaka, U., & Bonhomme, R. (2018). Substance use, anxiety, and depressive symptoms among college students. *Journal of Child & Adolescent Substance Abuse*, 27(2), 103–111. doi:10.1080/1067828X.2017.1420507
- Williams, M. T., Chapman, L. K., Wong, J., & Turkheimer, E. (2012). The role of ethnic identity in symptoms of anxiety and depression in African Americans. *Psychiatry Research*, 199(1), 31–36. doi:10.1016/j.psychres.2012.03.049
- Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Palo Alto, CA: Stanford University Press.
- Wood, J. L. (2011). Commentary: Falling through the cracks. *Diverse: Issues in Higher Education*, 28(18), 24. Retrieved from <https://diverseeducation.com/article/16561>
- Yamada, K., & Victor, T. L. (2012). The impact of mindful awareness practices on college student health, well-being, and capacity for learning: A pilot study. *Psychology Learning & Teaching*, 11(2), 139–145. doi:10.2304/plat.2012.11.2.139
- Zarotti, N., Povah, C., & Simpson, J. (2020). Mindfulness mediates the relationship between cognitive reappraisal and resilience in higher education students. *Personality and Individual Differences*, 156, 109795. doi:10.1016/j.paid.2019.109795

Emotional Freedom Techniques—How to Make It Mainstream; a Thematic Analysis of Practitioners' Views

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Abstract

Background: Emotional Freedom Techniques (EFT) is proposed as an effective therapy for the treatment of common mental health problems. It has, however, been met with criticism and is not presently considered a mainstream treatment option for conditions such as anxiety or trauma. Conversely, both cognitive behavior therapy (CBT) and Eye Movement Desensitization and Reprocessing (EMDR) have achieved recognition in advancing into mainstream status, yet EFT is still perceived as an alternative treatment option despite evidence of effectiveness, in more than 100 clinical trials and 40 research reviews and meta-analyses.

Aims: By examining the views of trained practitioners, this project aimed to explore the barriers and the facilitators to EFT becoming a mainstream treatment option in the UK's National Health Service (NHS) for common mental health problems.

Method: Semi-structured interviews were conducted ($N=12$) exploring views of EFT

practitioners. Transcripts were then subjected to thematic analysis.

Results: Analysis of participants' views resulted in three themes: (1) research as an asset and a challenge, (2) public perceptions of EFT as a therapeutic modality, and (3) EFT training standards. These themes are perceived as interlinked in the process of EFT becoming mainstream. Findings from this study indicate the requirement of further research evidence that is more widely disseminated to enable increased awareness to the public and those within the medical profession of EFT as a potentially beneficial adjunct intervention. Importantly, training for EFT therapists needs to be improved and standardized.

Implications: Based on the results, a series of recommendations are discussed that aim to address the barriers identified.

Keywords: EFT, Emotional Freedom Techniques, professional views, qualitative, thematic analysis

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Emotional Freedom Techniques (EFT) is considered one of the primary modalities in the field of Energy Psychology. EFT has its origins in Thought Field Therapy (TFT), devised by Roger Callahan, PhD, in the 1970s (Feinstein, 2012). In 1995, Gary Craig simplified Callahan's technique, calling it Emotional Freedom Techniques (Craig & Fowlie, 1995). EFT stimulates certain acupoints (acupuncture points) via light pressure with fingertips (as in acupressure) rather than acupuncture needles. The client is asked to focus on a fear response or traumatic memory and to talk through the presenting problem while gently

tapping on these points (Church, 2014). EFT is said to borrow components from established interventions such as cognitive therapy and exposure therapy but adds a somatic element of acupoint stimulation (Church, 2014) and uses the Subjective Units of Distress (SUD) scale developed by Wolpe (1958) to test results throughout treatment.

Research indicates that EFT relieves symptoms of psychological distress such as anxiety, panic attacks, and depression by disrupting the response to elicited traumatic memories (Patterson, 2016). It is postulated that, during EFT, in reaction to a perceived threat from an elicited traumatic memory, the amygdala signals the body to launch a stress response, as it does when facing an actual threat; the mind makes no distinction between the real and perceived threat (Ortner, 2013). EFT is purported to work with this process by interrupting impulses sent to the autonomic nervous system, thus reducing the response to a threat or negative arousal (Feinstein, 2018). In effect, it is suggested that the emotion derived from the original trauma is interrupted via impacts across neural pathways; in fMRI studies, acupuncture needling quiets activity in the amygdala and other areas of the limbic system (Dhond, Kettner, & Napadow, 2007; Fang et al., 2009; Hui et al., 2000, 2005; Hui, Marina, Liu, Rosen, & Kwong, 2010). EFT has been shown to reduce levels of the stress hormone cortisol (Bougea et al., 2013; Church, Yount, & Brooks, 2012; Maharaj, 2016; Stapleton, Crighton, Sabot, & O'Neill, 2020). Research has also demonstrated that EFT exerts epigenetic effects, specifically the differential expression of genes related to immunity and inflammation (Church, Yount, Rachlin, Fox, & Nelms, 2016).

A randomized controlled trial (RCT) conducted by Church, Yount, and Brooks (2012) examined changes in cortisol levels and symptoms of psychological distress pre- and postintervention for participants randomly assigned to an EFT group receiving an hour treatment, a psychotherapy group receiving supportive interviews (SI), or a no-treatment group (NT). The EFT group showed a significant reduction in anxiety and depression and experienced a significant decrease in cortisol compared to non-significant changes in the SI and NT groups. This study has now been replicated (a gold standard in research); the results support the original study's findings, concluding that EFT is "an efficient and effective

brief treatment for reducing biological markers of stress" (Stapleton et al., 2020).

Research demonstrates the efficacy of EFT in treating an array of physical and mental health issues, with over 100 studies published in peer-reviewed journals (cf. Bach et al., 2019; Church, 2014; Church & House, 2018; Church, Sparks, & Clond, 2016; Church, Stern, et al., 2017; Clond, 2016; Gaesser & Karen, 2017; Geronilla, Minewiser, Mollon, McWilliams, & Clond, 2016; Gilomen & Lee, 2015; Karatzias et al., 2011; Sebastian & Nelms, 2016).

The first clinical trial demonstrating EFT's efficacy was conducted by Wells, Polglase, Andrews, Carrington, and Baker (2003) to treat phobias of small animals. The EFT group showed significant reductions in fear responses compared to the control group; results were maintained at six- and nine-month follow-up, demonstrating sustained effectiveness. Since then, research has demonstrated that EFT is effective in the amelioration of a range of mental health conditions, notably anxiety (Boath, Stewart, & Carryer, 2012, 2013; Church & House, 2018; Clond, 2016; Jones, Thornton, & Andrews, 2011; Sezgin & Özcan, 2009; Thomas, Cutinho, & Aranha, 2017), depression (Church, 2014; Church & Brooks, 2010; Church, De Asis, & Brooks, 2012; Nelms & Castel, 2016; Stapleton, Devine, Chatwin, Porter, & Sheldon, 2014), and posttraumatic stress disorder (PTSD; Church & Brooks, 2014; Church & Feinstein, 2017; Church & Palmer-Hoffman, 2014; Church, Stern, et al., 2017; Geronilla et al., 2016; Sebastian & Nelms, 2016).

One study compared meridian-tapping (MT) with progressive muscle relaxation (PMR) in the treatment of obsessive-compulsive disorder (OCD; Moritz et al., 2011). The researchers cited EFT as a form of MT. The study concluded: "Whereas subjects found MT more helpful than PMR in retrospect (39% versus 19%) and would continue to use it in the future (72% versus 48%), there was no evidence for a stronger decline of OCD symptoms under MT . . . [W]hile self-help MT may enhance the well-being of a subgroup of participants, its potential for OCD appears to be small."

EFT has been criticized for being based on research that lacks control groups and comparison to other established therapies such as cognitive behavior therapy (CBT; Bakker, 2013, 2014),

despite the contrary evidence (EFT vs CBT: Benor, Ledger, Toussaint, Hett, & Zaccaro, 2009; Zhang, Feng, Xie, Xu, & Chen, 2011; EFT vs. EMDR: Benor et al., 2009; Karatzias et al., 2011). Further, the criticism by Bakker does not apply to research published subsequently (e.g., EFT vs CBT: Chatwin, Stapleton, Porter, Devine, & Sheldon, 2016; Gaesser & Karan, 2017; Nemiro & Papworth, 2015; EFT vs. narrative therapy: Al-Hadethe, Hunt, Al-Qaysi, & Thomas, 2015).

In one study, 46 participants who had been diagnosed with PTSD were randomized into an EFT group or an Eye Movement Desensitization and Reprocessing (EMDR) group (Karatzias et al., 2011). Results indicated both interventions produced significant therapeutic gains at posttreatment and at three-month follow-up. Similar treatment effect sizes were observed in both treatment groups, although a slightly higher proportion of participants in the EMDR group produced substantial clinical changes compared to the EFT group.

Energy-based modalities in general receive skepticism (Herbert & Gaudiano, 2001). Bakker (2013) argues it is scientifically implausible that energy fields exist, suggesting that they cannot be quantifiably or explicitly measured. However, in 1962, Korean researcher Bong-Han Kim demonstrated the existence of the acupuncture meridian system as a physical entity, which he termed the primo vascular system (PVS; Kim, 1962). In 2009 Korean research confirmed Kim's findings (Soh, 2009), identifying the PVS in various organs, and subsequent research likewise confirmed the existence of the PVS (Lee et al., 2014; Soh, Kang, & Ryu, 2013). Further, Feinstein (2018) postulates that electrical signals are produced by way of "mechanosensory transduction," which is supported by imaging studies showing that electrical energy is discharged via stimulated cells (Bai et al., 2011; Finando & Finando, 2012).

A systematic review and meta-analysis of comparative studies addressed the question of whether tapping on acupuncture points is an active ingredient in EFT (Church, Stapleton, Yang, & Gallo, 2018). The researchers found that the outcomes for the acupressure groups were "moderately stronger" than the outcomes for the controls. Regarding whether tapping is an active ingredient in EFT, they concluded: "Meta-analysis indicated that the acupressure component was an active ingredient and outcomes were not due solely to

placebo, nonspecific effects of any therapy, or non-acupressure components."

Two other meta-analyses revealed efficacious findings when examining EFT for the treatment of psychological distress (Sebastian & Nelms, 2017; Gilomen & Lee, 2015). Sebastian and Nelms (2017) reviewed RCT studies of EFT in the treatment of PTSD. They evaluated the RCTs according to evidence-based standards published by the American Psychological Association Division 12 Task Force on Empirically Validated Therapies. Seven RCTs met the criteria. The meta-analysis concluded that four to 10 EFT sessions provides "an efficacious treatment for PTSD with a variety of populations."

The objective of the meta-analysis by Gilomen and Lee (2015) was to determine the effect of EFT in the treatment of psychological distress. They reviewed 18 RCTs published in peer-reviewed journals and involving 921 participants. The result of the meta-analysis was that EFT "appears to produce an effect." Methodological shortcomings prevented the researchers from determining, however, whether that effect was from the acupoint stimulation or aspects of EFT common to other long-standing therapies such as CBT.

Although EFT is 25 years old, has over 100 clinical trials, and is used worldwide, acceptance by mainstream psychology has not yet occurred. It might be important to explore the journey of other therapeutic modalities from their origin to becoming mainstream, as key lessons could be learned and applied. For instance, following years of initially theoretical and subsequently clinical research, CBT now enjoys a special status as the recommended treatment option in the UK (and around the world) for a wide range of mental health problems—although its effectiveness has recently been challenged (Laws, Darlington, Kondel, McKenna, & Jauhar, 2018). Similarly, EMDR initially met with skepticism (Acierno, Hersen, Van Hasselt, Tremont, & Meuser, 1994; Beutler & Harwood, 2001), but the National Institute for Health and Care Excellence (NICE) now recommends it as treatment for children and young adults (7 to 17 years of age) diagnosed with PTSD and whose symptoms do not seem to improve with trauma-focused CBT (NICE, 2018).

EMDR research, in particular, began in 1989 and focused on the treatment of PTSD. Further studies were conducted and Francine

Shapiro, PhD, the originator of the technique, continued to develop the treatment approach by incorporating feedback from clients and clinicians using it (Shapiro, 1996). In its early stages, EMDR did not receive independent verification through controlled studies, thus it remained at the experimental stage. However, Shapiro starting teaching EMDR to licensed clinicians and standardized the training (Shapiro, 1995). At the time, there was no treatment for PTSD that was established and empirically validated (Chambless et al., 1998). EMDR was then reviewed by the Clinical Psychology Division of the American Psychological Association and was identified as a treatment option with “probable efficacy.” Since then, numerous case studies and controlled outcome studies have been published, with some comparing EMDR and CBT in terms of efficacy (Khan et al., 2018).

As with EFT, critics referred to EMDR as “pseudoscience.” It is argued, however, that the quality and validity of research has addressed many identified weaknesses (Sikes & Sikes, 2003), with one being inconsistent practice in terms of formal supervised training. The improvement and refinement of training programs is said to have combatted this; however, it has been suggested that, given the complexity of EMDR, training should be restricted to licensed mental health practitioners and advanced trainees (Greenwald, 1994). Arguably, these lessons could be applied to the advancement of EFT. Although EMDR met with criticism, as noted, it is now recognized as efficacious in the treatment of PTSD.

It could be postulated that EFT could learn from both these modalities to support its progression as a mainstream treatment option, especially after its recent consideration by NICE (2018) as treatment for adults with PTSD. The NICE guidelines concluded that EFT is in a position to merit government research funds for the treatment of PTSD. To the authors’ knowledge, however, no research has been identified that examines the barriers and facilitators to EFT becoming a mainstream therapy for the treatment of common mental health complaints.

Aims and Objectives

This project investigated views of EFT practitioners in exploring what helps and hinders EFT in becoming a mainstream treatment option for people experiencing psychological distress including

depression, anxiety, and trauma. Results will inform the development of recommendations with the view to support initiatives by relevant representative EFT organizations in identifying the strategies required so that EFT becomes a treatment option available via mainstream health care providers for people experiencing symptoms of psychological distress.

Method

Design

Qualitative research was undertaken to establish participants’ perspectives on their knowledge and experiences (Hammarberg, Kirkman, & de Lacey, 2016). Views are considered within the wider societal context. The research was, therefore, conducted from a social constructivist perspective (Braun & Clarke, 2006). This epistemological position is appropriate, as study aims were based on participants’ perspectives, which were then interpreted through a systematic analysis of the data (Braun, Clarke, & Hayfield, 2015). Given this social constructivist standpoint, thematic analysis (TA) was the most suitable method (Braun & Clark, 2006). Semi-structured interviews were conducted, as this offered a flexible approach to explore views comprehensively as well as keep interviews focused (Young et al., 2018), with emerging trends being uncovered to explore participants’ views on the barriers and facilitators to EFT becoming mainstream. This qualitative research paper is reported in line with Consolidated Criteria for Reporting Qualitative Studies (COREQ) guidelines. COREQ is a reporting guidance for qualitative research that uses interviews as part of the research (Tong, Sainsbury, & Craig, 2007).

Participants

A purposive sampling strategy was followed to ensure that suitable participants were identified (Bolderston, 2012; Robinson, 2014). Participants were recruited by an advertisement that was disseminated on the social media platforms Twitter and LinkedIn. The lead researcher created a poster inviting qualified EFT practitioners to take part in the study. Two gatekeepers were also contacted to assist with recruitment. The gatekeepers were the lead researcher’s EFT trainer and the chair of the EFT International (EFTi) research team. Both subsequently disseminated the poster on behalf

of the researcher to assist in the recruitment of participants.

To participate, therapists had to have a minimum EFT training of one year, be certified by an EFT regulatory body, and not be known to the primary researcher. The latter point was decided at the design stage of the project to safeguard against potential undue influence to participate (although no such individual came forward). EFT practitioners could also be trained in other modalities of psychotherapy. Individuals who met the inclusion criteria were interviewed on a first-come-first-served basis. Participants were based in the UK, Ireland, and the US and all had received Continuing Professional Development (CPD) by way of annual mentoring and supervision. In total, 12 EFT practitioners took part, which is sufficient and methodologically sound for this type of research. Specifically, Guest, Bunce, and Johnson (2006) suggest that, by the 12th participant, approximately 95% of data saturation is achieved and no further new codes are generated after this point. Participant demographic characteristics can be found in Table 1.

Data Collection

Interviews were semi-structured and conducted by the lead researcher via the video conferencing platform Zoom. They consisted of open-ended questions aided by a topic guide (see Table 2), lasting no more than one hour (longest interview 58.01 minutes; shortest 38.32 minutes; mean 50.93 minutes). All interviews were audio-recorded and anonymized. Participants' views were expressed and not led by the interviewer,

which helped eliminate the potential for researcher bias (Willig & Stainton-Rogers, 2017).

Data Analysis

An inductive form of TA was conducted, as theoretical and epistemological independence and flexibility are advantages of this approach (Braun & Clarke, 2006; Willig & Stainton-Rogers, 2017). Led by the participant's voice, this allows for meaning to be identified within the data resulting from emerging trends of participants' thoughts and views. The focus of this research is to remain close to implicit understandings within the data, which are shaped by participants' prior knowledge and experiences (Braun et al., 2015; Willig & Stainton-Rogers, 2017). This approach is not, therefore, conjoined to any intrinsic epistemological position (Braun & Clarke, 2006).

This research incorporates a latent form of TA. It considers meanings based on societal and political constructs, which lie beneath the surface of how experiences and knowledge shape the framework of the worldview of participants, of which participants may not explicitly be aware (Braun et al., 2015). Further, the researchers cannot eliminate themselves from their theoretical viewpoint, given their position and active role because the data are "not coded in an epistemological vacuum" (Braun & Clarke, 2006, p. 84).

The lead researcher, a trained EFT practitioner, conducted the interviews and led the analysis, supervised by an academic psychologist with no prior experience of EFT. The authors believe that this diverse background enhanced the rigor of the analysis, as preexisting worldviews and other

Table 1. *Participants' Demographics*

Name	Age	Country	Yrs in Practice	EFT Qualifications	Other Qualifications
Mary	54	UK	12	Level 2	BA Hons
Bob	54	UK	21	Master Practitioner	N/A
Chris	36	UK	7	Level 2	Reiki practitioner, coach, hypnotherapist
David	57	USA	10	Master Trainer	DoC
Sarah	44	UK	6	Level 3	MA (counseling), PG Dip, BACP, BA
Julie	68	USA	23	Level 3, Diplomat, trainer	LCSW, International Trainer (EFT)
Michelle	74	USA	23	Master Practitioner	Cert of Energy Health Practitioners
Joanne	44	UK	7	Level 2	BA Hons
Louise	48	UK	9	Level 3	Coach, NLP, hypnotherapist
Paula	63	USA	20	Master trainer	Reg nurse, hypnotherapist
Maria	46	Ireland	11	Level 2	MA (counseling and psychotherapy)
Vicky	50	UK	4	Level 3	Master NLP, Reiki practitioner

Note: Mean age: 53 SD: 21.25. Mean years in practice: 13 SD: 39.91.

Table 2. Interview Question Examples

Examples of Interview Questions

Why do you think EFT is yet to be considered a mainstream technique for the treatment of psychological problems?

What are the barriers that preclude EFT from becoming mainstream?

What do you think blocks EFT in becoming a mainstream technique for the treatment of psychological problems?

How can research into EFT advance in order to inform mainstream clinical practice?

What recommendations would you make to support EFT in being accepted as a mainstream technique?

sources of bias could be challenged. Further, the lead researcher kept a reflective log. These positionalities and strategies enabled the authors to manage sources of bias and ensure rigor, transparency, and objectivity (Willig, 2013; Willig & Stainton-Rogers, 2017).

Upon data being collected, the six phases of TA were adhered to as described by Braun and Clarke (2006). Data analysis was facilitated by the use of N-VIVO software (Version 11).

Ethical Considerations

All study procedures complied with the British Psychological Society ethical procedures (BPS, 2014) and were approved by the Manchester Metropolitan University Faculty of Health, Psychology and Social Care Research Ethics and Governance Committee (FREGC No. 5556). The management of personal sensitive data adhered to the General Data Protection Regulation (GDPR). The names of all participants have been changed in this study to preserve anonymity.

Results

Three overarching themes emerged: public perceptions of EFT, research as an asset and a challenge, and specific challenges around training. These are explored along with subordinate themes. Table 3 provides a summary of the results and Figure 1 depicts the relationships of themes and subthemes.

Public Perceptions

This overarching theme describes practitioners' experiences in terms of public perceptions of EFT. Three subthemes emerged: awareness and acceptance, skepticism, and language used.

Awareness and acceptance. Awareness and acceptance are regarded as both a facilitator and a barrier to the advancement of EFT. Practitioners noted that the public has become more aware of

EFT in recent years, as summarized by Maria: "There is now more of an awareness of EFT. It's less woo-woo than it was nine or 10 years ago." Growth of the modality has raised awareness, which has also been aided by increased media attention, as described by Chris:

"It's approaching the edge of mainstream here . . . because of the age of technology and information, it's so much bigger than it was 20 years ago. We're hearing this mentioned again and again on the media."

Four of the 12 participants are actively engaged with initiatives that enhance awareness and acceptance, as highlighted by David's experience: "I just taught at a university in New York; they are now collaborating and reaching out to other licensed mental healthcare providers." Acceptance and awareness are also linked to the subordinate themes of advance in research and academic credibility, acting as a facilitator. Participants are of the view that the acceleration of EFT is due to advancing research and the support of mainstream speakers and presenters. Commonly discussed is the research by a prominent academic whose influence has had a major impact on raising awareness and acceptance of EFT, and which

Table 3. Summary of Superordinate and Subordinate Themes

Superordinate Theme	Subordinate Themes
Public perceptions	Awareness and acceptance Skepticism Language used
Research as an asset and a challenge	Academic credibility Advances in research
EFT training	Standardization of training Poor training standards and certification

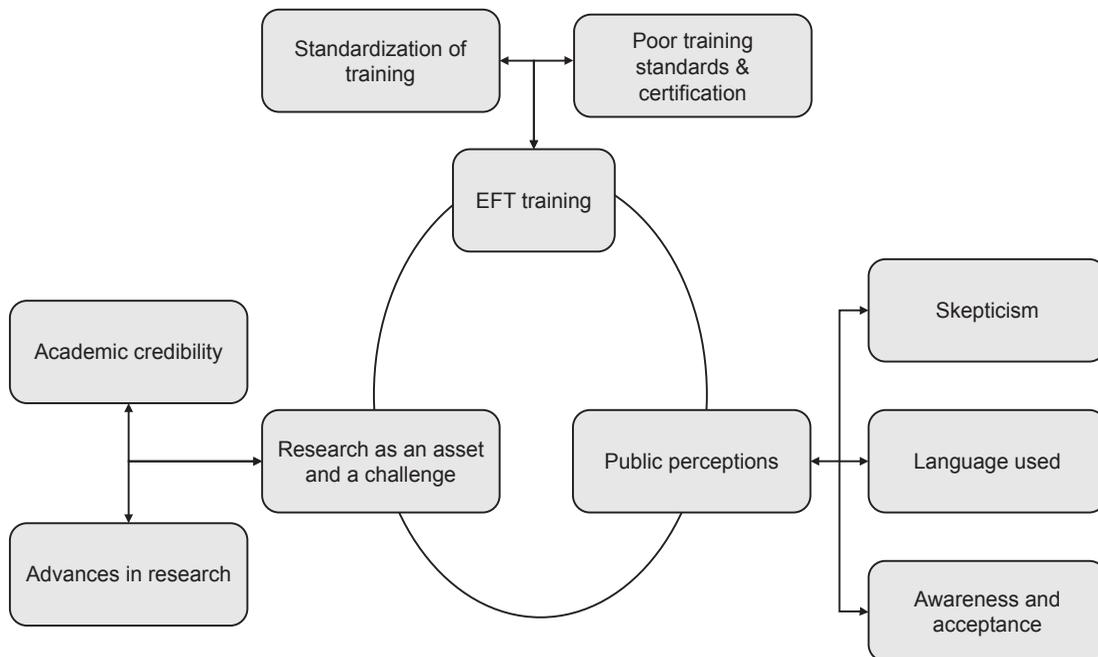


Figure 1. Relationship of themes.

resulted in the advancement of EFT. As David reported:

“[Name of academic]’s research has been a primary one, in [country of practice] the difference is palpable . . . spearheaded by a psychologist and a mainstream academic institution. There is an influence and acceptance of EFT.”

In contrast, lack of awareness and acceptance is viewed as a barrier due to a lack of familiarity or understanding of the modality. Participants argue that, particularly within the medical profession, EFT does not fit with the current medical model. Julie stated: “Within the medical profession . . . they haven’t got the knowledge or experience of using it, they are not open to it, I don’t think.” Joanne concurred: “The principles behind EFT are different from modern medicine . . . you tell most medical people who perhaps don’t believe in the principles as to why EFT works.” It is possible that medical professionals are not familiar with EFT.

Participants believe influencers in the field and practitioners have a collective onus to raise awareness further, as Maria stated: “I think we as clinicians need to up our game . . . I think there is definitely an onus on us as well as the NHS [National Health Service] and the academic community to bring that forward.”

Skepticism. Participants commonly report that the public views EFT with skepticism in terms of what it looks like, referring to it as “strange” or “woo-woo.” This acts as a barrier and is linked to the subordinate theme, awareness and acceptance, as described by David: “There is a natural skepticism towards what the technique looks like . . . tapping on the skin of the face, and how that changes beliefs and feelings.” Public perceptions are not helped by online resources that refer to EFT as a pseudo modality, as Mary observed:

“The people at [online publicly available encyclopedia] have been given all the evidence, the trials, and it will not change the entry in [the online publicly available encyclopaedia], which basically says EFT is a sham therapy.”

How quickly EFT can achieve results was identified as another key area of public perceptions. Specifically, people question EFT’s credibility regarding the speed of results, as described by Bob:

“Many people think it’s a lot of hocus-pocus, they are very skeptical about it because if it is pretty quick and, remember, counseling has been around for years, people go for years and years.”

Those who are skeptical are legitimately likely to require scientific validity backed by a

wealth of research supporting the claims made, thus skepticism is linked to other themes identified in this study.

Language used. Participants refer to the nature of the language used by EFT practitioners, particularly the word “energy,” as another source of a barrier that affects public perceptions. Sarah is “cautious about how it’s [EFT is] demonstrated and framed in terms of the language.” Paula noted that she also is mindful of the language she uses:

“I am a licensed clinical social worker. We were always taught to speak the language of the client; don’t speak your own language. When they start saying that EFT fixes your energy system, I never use those words.”

This view is shared by Julie: “Making the language a bit more grounded . . . when you’re talking about things like energy. I use language that’s appropriate such as light-touch acupressure not acupuncture, it’s very relaxing getting out of the sympathetic nervous system of fight, flight, or freeze.”

Research as an Asset and a Challenge

The need for more and higher quality research was a theme identified in participants’ narratives. Meanwhile, research is regarded by participants, on one hand, as an asset and, on the other hand, as a challenge. They are, therefore, of the view that research acts as both a facilitator and a barrier. Subthemes included academic credibility and advances in research.

Academic credibility. Participants discussed the importance of academic credibility as a key contributor to EFT becoming a mainstream intervention of choice. Participants emphasized the importance of evidence-based practice and provided examples where this has been successful. By engaging with evidence-based practice, participants believed that public awareness would also improve. Indicatively, Chris said:

“[Name of academic] in [country of practice] is doing some great work. I think getting behind that will propel things forward a little bit more. I think it will become a tipping point where the establishment won’t be able to ignore it anymore.”

Participants also considered the impact of the origins of EFT and drew parallels between EMDR

and EFT, by noting that EMDR was developed by a qualified academic. Conversely, EFT was proposed as a self-help tool for personal development by Gary Craig who did not originate from a psychology background nor was he working in conjunction with academic institutions during the conception of EFT. This, the participants stressed, hinders the academic credibility of EFT. Maria said: “Gary Craig isn’t medical; I think that’s proven as a barrier in terms of health.”

Advances in research. Participants repeatedly emphasized the positive implications of the advancements in EFT research in recent years. Julie stated: “There has been more scientific research in the last 10 to 15 years . . . the more people see evidence that it works will get it into mainstream treatment.” Participants appeared hopeful for the future, as research on EFT is now being replicated, as referred to by David:

“We just had a replication of [name of academic]’s study on cortisol. We are finally having our first MRIs . . . and genetic stuff, that raises the spectre of acceptance, by both mainstream and academia.”

Participants report, however, that while advancement in research is more promising, a stronger research momentum is required to support a move to mainstream practice, as described by Joanne: “I think they need more gold-standard studies, big-number RCTs; there are quite a lot of smaller studies.” Finally, David saw a potential barrier that hinders EFT from becoming mainstream, which is that the research is often conducted by people with a vested interest: “Certainly in relation to the research we need to have more research done by those people without a vested interest.”

EFT Training

The third theme identified was related to the level and quality of training received. Subthemes including standardization of training and poor training standards and certification. Specifically, participants vocalized their concerns that one can become an EFT practitioner with a minimal amount of training and reported poor regulation, with Michelle noting that “the general public sees EFT practitioners who take a weekend course.” Compared to other psychotherapeutic modalities, EFT training is regarded as limited, with

less accountability. Further, participants report concerns regarding standardization of training, as Mary summarized:

“It depends who you train with, you’ve got a variation. There are people like EFT International who are credible. It’s three days training then 50 hours of case studies. You don’t have to do that, though . . . there are trainers who have no accountability.”

This is particularly challenging as EFT training requirements mostly depend on the country where one chooses to attend the training. In countries that do not have a standardized provision of training, an EFT qualification is not comparable to that held by other mental health practitioners that practice mainstream interventions (e.g., the duration and rigor of EFT training in the US is comparable with certification in CBT or EMDR).

Training standards concerning regulation, certification, and ethical consideration were collectively viewed as problematic, as noted by Joanne: “I think the ethical perspectives can be quite different . . . the levels of training really differ . . . there are no DBS [Disclosure and Barring Service] checks, or scrutiny.” There are now initiatives that aim to address some of these objective barriers, however. Specifically, Mark highlighted that these concerns have been formally recognized by representing organizations and work has started with the view of supporting the development of appropriate systems that can safeguard the quality of training and provision: “EFT International is doing really well because they are tidying up CPD requirements.” David agreed: “There should be some sort of standardization of training and this should be recognized, [that] the profession is self-policing . . .”

Discussion

This project aimed to identify what prevents and what facilitates EFT from becoming a mainstream modality for the treatment of symptoms of psychological distress. Three overarching themes emerged from the TA: public perceptions of EFT (awareness and acceptance, language, and skepticism), research as an asset and a challenge (academic credibility and research advancement), and EFT training (standardization of training and poor training standards and certification). The authors understand that these themes and subthemes are

interrelated. EFT becoming a mainstream intervention, therefore, would be the product of work that addresses the challenges identified systematically. Although participants collectively thought that the status of EFT is changing, it is still an intervention that needs a stronger evidence base before being formally considered a mainstream intervention. Meanwhile, EFT training requires the attention of all practitioners and organizations supporting EFT, so that the significant challenges currently present are streamlined. By addressing the research and the training challenges, it is believed that public perceptions will also change.

According to participants’ narratives, the public appears to be more aware of EFT than in the past. This cannot be attributed exclusively to the advances of EFT. Although not assessed in this study, it is also possible that people are seeking alternative treatment options and are willing to pay privately, too, due to the significant delays for accessing care via public providers (Kelner & Wellman, 1997). Su and Li (2011) examined data from a National Health Interview Survey in the United States from 2002 to 2007 and observed those who had their access to conventional care restricted. For example, they were subject to a long waiting list or were never able to access treatment because it was not available or accessible, so they then sought alternative treatment options.

Wiese and Oster (2010) suggested that an increase in consumer demand for Complementary and Alternative Medicine (CAM) has led to the integration of alternative interventions into mainstream health care. In 2007, Giannelli, Cuttini, Da Frè, and Buiatti concluded that despite consumer demand, a paucity of clinical evidence and limited CAM awareness hindered referrals by general medical practitioners. A study published in 2020, however, found that over half of 5,622 US physicians surveyed had recommended at least one complementary health approach (CHA) in the past year. Among the most commonly recommended were massage at 30.4% and acupuncture at 22.4% (Stussman, Nahin, Barnes, & Ward, 2020).

The implication of an intervention supported by a strong evidence base cannot be emphasized enough, even when the intervention may not be perceived as conventional. Similarly to EFT, EMDR was originally met with controversy (Acierno et al., 1994), with some evidence portraying EMDR as inconclusive or indifferently effective compared to other interventions (Hubbard, 2013).

Although, by 2008, further research was conducted into the efficacy of EMDR, the Institute of Medicine reported more empirical evidence was required for the treatment of PTSD. Subsequent published research led to the therapy being recommended as an effective treatment for trauma by organizations such as the American Psychological Association (APA; Shapiro, 2014). It could, therefore, be argued that further research is required for EFT to become accepted as a mainstream treatment option. Although more recent research has now been conducted, notably in the last five to 10 years, perhaps EFT can once again be presented to the necessary bodies such as the APA and NICE during reviews to demonstrate progress made in establishing the efficacy and validity of EFT.

The effectiveness of EMDR in treating PTSD has undergone the scrutiny of several meta-analyses, which led to the World Health Organization (WHO, 2013) recommending EMDR as a psychotherapy of choice in the treatment of PTSD in children, teenagers, and adults (Valiente-Gomez et al., 2017). This has resultantly increased clinical interest in EMDR within psychology and psychiatry worldwide, with EMDR thus lending itself as a mainstream treatment option. It could be argued that similar scrutiny of EFT could lead to its acceptance by the relevant bodies. EMDR is now regarded as one of the fastest-growing treatments in the history of psychotherapy (Cook, Biyanova, & Coyne, 2009) and, in the UK, one of the recommended interventions for the treatment of PTSD (NICE, 2018). Advances in EFT research, therefore, are considered of critical importance. In fact, this study showed that a stronger evidence base of clinical effectiveness would most likely enhance public perceptions and reduce skepticism.

This study also highlighted that the type of language used to describe how the intervention works (such as the term “energy”) might be confusing to individuals interested in engaging with the intervention and alienate them. Indeed, Bakker (2013) perceived references to “energy systems” as problematic and this study showed that, as a result, practitioners often report changing their language. Boroditsky (2011) maintained that language affects how we view our world, shapes our thought processes, is central to our experiences, and defines our decision making. Changing the way the operations of EFT are explained to the public could support the advancement of EFT.

The theme “research as an asset and a challenge” suggests that while more efficacious research supports the advancement of EFT, a stronger momentum of high-quality research that is not conducted by researchers with a vested interest is needed. For example, some of the existing research consists of small-scale pilot or feasibility studies. It could be argued that more extensive, larger scale trials need to be conducted to demonstrate research validity. Empirical evidence that supports an intervention is fundamental to effective practice (Rousseau & Gunia, 2016) and promotes a universal theoretical model adopted by clinicians (Cook, Schwartz, & Kaslow, 2017). Specifically, RCTs, acknowledged as the gold standard of clinical effectiveness, measure the efficacy of a treatment modality comparable to another intervention, with individuals randomly assigned to clinical or control group to measure the impact of an intervention (Hariton & Locascio, 2018).

Looking at the numbers alone for indicative purposes, a review of PubMed (US National Library of Medicine) for “cognitive behavioral therapy” and “clinical trial” revealed 14,898 articles. Arguably, no other form of psychotherapy has been shown to be systematically superior to CBT (David, Cristea, & Hofmann, 2018). If there are systematic differences between psychotherapies, CBT is typically favored (David et al., 2018). It is difficult to suggest how many more clinical trials are required for EFT to become accepted, as it is not possible to identify the number of successful trials that existed at the time CBT started to be favored by policy-makers. It could be argued that larger clinical trials are required and EFT should continue the research momentum.

Another key finding in this study relates to the major disparities in trainer practices that significantly hinder the advancement of EFT into mainstream practice. High-level training in the delivery of mental health interventions is fundamental for the implementation of empirically supported treatments (Boyd, Lewis, Scott, Krendl, & Lyon, 2017). Trainers are in the propitious position to influence the success of the training. It is reported, therefore, that effective training includes a combination of academic learning and a set minimum number of hours of supervised practice. This standard requirement when learning a new intervention is thought not to be rigorous enough within EFT training. Trainer characteristics, effective teaching

skills, and dissemination of evidence-based practice are all said to be fundamental requirements of trainer delivery (Alsultan, 2011). When exploring the desirable attributes for an EFT practitioner, Stapleton and Chatwin (2017) found that adequate training is required, which includes the importance of standardization of EFT training and the supervision process.

To become accredited to practice as a CBT therapist as part of the British Association for Behavioural and Cognitive Psychotherapies (BABCP; 2019), one must have relevant mental health professional training to degree level or the equivalent. Accredited therapists must also have ongoing CBT clinical supervision, including regular live assessment of practice.

To be accredited as a psychotherapist through the British Association for Counselling and Psychotherapy (BACP; 2019), therapists must have completed and graduated from a BACP accredited course or professional counseling or psychotherapy training that included at least 450 hours of supervised practice and tutor contact hours over one year in full-time practice or over two years part-time. A supervised placement is likewise required and is integral. Therapists must also have been in practice for a minimum of three years. Adherence to ethical frameworks and professional codes of conduct is mandatory.

To become an accredited EMDR therapist through the EMDR Academy (2019), one must have a background in clinical practice in mental health. Accredited EMDR training is limited to psychologists, psychiatrists, registered mental health nurses, and registered mental health social workers. Counselors and psychotherapists must be accredited by professional bodies such as BABCP or BACP.

Professional EFT associations (e.g., EFT International) should safeguard EFT training from unregulated provision while seeking to develop proven skills-based competency curricula that enables parity across provision (Van Zanten, Boulet, & Greaves, 2012). There appears to be a diversity in the modality by which EFT training is delivered—from unregulated online courses to fully accredited training courses. While this diversity of training and quality of training exists in many other interventions and the field of psychotherapy, for anyone to practice CBT, for instance, regardless of whether the training is delivered online or not, one must adhere to a minimum set

of standards. EFT International (2020) has developed systems to provide accreditation of training, but, based on the participant accounts in this study, more regulatory work is needed to safeguard the implementation of these processes and procedures. It was evident that stringent accreditation processes are not in place for EFT practitioners as they are for other interventions, which could arguably be one of the fundamental barriers to any further advancements in EFT's pursuit into mainstream practice.

Strengths and Limitations

Participants in this study were interviewed on one occasion only. Arguably, additional interviews with participants could have been conducted (Young et al., 2018) to confirm/disconfirm and/or strengthen themes, thus enhancing reliability (Willig, 2013). However, there were no opposing views among participants to suggest the need for such an approach. Besides, the diverse expertise and positionality of the members of the research team strengthened the interpretation of the data against biased interpretation based on personal worldviews.

Another limitation of this study was the lack of public involvement in the study design. Although the expertise of the lead researcher could, to some degree, have accounted for this, it is important to emphasize that similar to studies in health research (e.g., Chatzidamianos, Lobban, & Jones, 2015), the involvement of practitioners from the original conceptualization of the study would have enhanced the project significantly. This is of particular importance, as, to the authors' knowledge, no similar such research has been conducted in the past.

Methods were employed to ensure this project was rigorous; however, we must account for intersubjectivity. The researchers' preconceptions and ideas about the topic area would very likely influence and bias the data given the researchers' position (Willig & Stainton-Rogers, 2017). To eliminate this risk, any future research should be undertaken by those not within this field. It should be acknowledged, however, from a social representations perspective, such disparity between researcher and participant perspective can in itself become an important research tool, as assumptions can be challenged (Willig & Stainton-Rogers, 2017).

Recommendations

Based on the research findings in this study, the following provides a summary of key recommendations that may help in addressing the barriers to EFT becoming a mainstream intervention for the treatment of psychological distress.

While it is accepted that there is now increased awareness of EFT, the public continues to entertain ideas that do not necessarily reflect what EFT actually is. To that effect, EFT organizations worldwide should consider developing a coherent and consistent media and social media strategy, ensuring prominence on a monthly basis, at minimum. This can be achieved through those proponents and public figures who already have favorable coverage within the field and those with established media contacts. If a decision was made to maintain a strong presence across media and social media with frequent, interesting, and original content, research has shown this is more likely to incite the public's engagement and interest (Ashley & Tuten, 2015).

Further, this investigation proposes that research both helps and hinders the advancement of EFT. Addressing this barrier requires the involvement of many partners and a strategic plan. Drawing on the expertise of leading research authorities could be utilized as a blueprint to support the advancement of research that is then supported by the media strategy with the view to communicate the EFT research findings effectively both to the general public and to health officials.

Finally, the study participants overwhelmingly talked about the importance of standardizing and regulating EFT training. In countries where training is not currently standardized and on a par with other established psychotherapeutic approaches, based on the findings within this research, a full review of current training practices is recommended to ensure the following:

- Explore the stringency of how other modalities such as CBT and EMDR regulate their training and trainers through governing bodies. Guidance and criteria to be adapted to create a new model of practice.
- Across the three main organizations—EFTi, EFT Universe, and the Association for Comprehensive Energy Psychology (ACEP)—all trainers are provided standardized training. Consideration should then be given to disseminating this to

all EFT training providers, so there is standardization top down.

- All delivery meets with current EFTi (2020), EFT Universe (2020), and ACEP (2020) requirements, including in-person classroom delivery, ongoing mentoring hours, and required CPD hours.
- All trainers are following guided training requirements by conducting observations during training sessions.
- It was also apparent in our findings that EFT is practiced by individuals or organizations that are not regulated or accredited. Improved accountability and regulation across provision should act as a driver to ensure standardization across other countries where new training is being rolled out.

An area of interest for future research would be to explore the views of the general public, medical professionals, and non-EFT practitioners.

Conclusion

This project explored the views of EFT practitioners with the view to identifying the barriers and facilitators to EFT becoming a mainstream treatment option freely available at the point of delivery for the treatment of common mental health complaints. Findings revealed three overarching themes: public perceptions, research as an asset and a challenge, and EFT training. The present findings add to the body of evidence-based literature of which EFT is in need. The authors provided a series of recommendations. It is acknowledged that the implications of the recommendations have not been assessed. Future research, therefore, should seek to explore how these recommendations can be operationalized along with further qualitative work on the views of the public, medical professionals, and non-EFT practitioners to explore the facilitation of EFT being delivered through mainstream health care services.

References

- Acierno, R., Hersen, M., Van Hasselt, V. B., Tremont, G., & Meuser, K. T. (1994). Review of the validation and dissemination of eye-movement desensitization and reprocessing: A scientific and ethical dilemma. *Clinical Psychology Review, 14*(4), 287–299. doi:10.1016/0272-7358(94)90026-4
- Al-Hadethe, A., Hunt, N., Al-Qaysi, G., & Thomas, S. (2015). Randomised controlled study comparing two psychological therapies for posttraumatic stress disorder (PTSD):

- Emotional Freedom Techniques (EFT) vs. Narrative Exposure Therapy (NET). *Journal of Traumatic Stress Disorders and Treatment*, 4 (4), 1000145. doi:10.4172/2324-8947.1000145
- Alsultan, M. (2011). What makes an effective clinical trainer? *Saudi Journal of Kidney Diseases and Transplantation*, 22(6), 1229–1235.
- Ashley, C., & Tuten, T. (2015). Creative strategies in social media marketing: An exploratory study of branded social content and consumer engagement. *Psychology and Marketing*, 32(1), 15–27.
- Association for Comprehensive Energy Psychology (ACEP). (2020). *Getting certified in Comprehensive Energy Psychology*. Retrieved from <https://www.energypsych.org/page/CEPCertProgram>
- Bach, D., Groesbeck, G., Stapleton, P., Banton, S., Blickheuser, K., & Church, D. (2019). Clinical EFT (Emotional Freedom Techniques) improves multiple physiological markers of health. *Journal of Evidence-Based Integrative Medicine*, 24. doi:10.1177/2515690X18823691
- Bai, Y., Wang, J., Wu, J.-P., Dai, J.-X., Sha, O., Tai Wai Yew, D., . . . Liang, Q. N. (2011). Review of evidence suggesting that the fascia network could be the anatomical basis for acupoints and meridians in the human body. *Evidence-Based Complementary and Alternative Medicine*, 2011, 260510–260516. doi:10.1155/2011/260510
- Bakker, G. M. (2013). The current status of energy psychology: Extraordinary claims with less than ordinary evidence. *Clinical Psychologist*, 17(3), 91–99. doi:10.1111/cp.12020
- Bakker, G. M. (2014). A bigger swamp is still a swamp: Comments on Feinstein (2014). *Energy Psychology: Theory, Research, and Treatment*, 6(1), 44–47. doi:10.9769/EPJ.2014.6.1.GB
- Benor, D. J., Ledger, K., Toussaint, L., Hett, G., & Zaccaro, D. (2009). Pilot study of Emotional Freedom Techniques, wholistic hybrid derived from Eye Movement Desensitization and Reprocessing and Emotional Freedom Techniques, and cognitive behavioral therapy for treatment of test anxiety in university students. *Explore: The Journal of Science and Healing*, 5, 338–340. doi:10.1016/j.explore.2009.08.001
- Beutler, L. E., & Harwood, T. M. (2001). Antiscientific attitudes: What happens when scientists are unscientific? *Journal of Clinical Psychology*, 57(1), 43–51.
- Boath, E., Stewart, A., & Carryer, A. (2012). Tapping for PEAS: Emotional Freedom Technique (EFT) in reducing Presentation Expression Anxiety Syndrome (PEAS) in university students. *Innovative Practice in Higher Education*, 1(2), 1–11.
- Boath, E., Stewart, A., & Carryer, A. (2013). Tapping for success: A pilot study to explore if Emotional Freedom Techniques (EFT) can reduce anxiety and enhance academic performance in university students. *Innovative Practice in Higher Education*, 1(3), 1–13.
- Bolderston, A. (2012). Conducting a research interview. *Journal of Medical Imaging and Radiation Sciences*, 43(1), 66–76.
- Boroditsky, L. (2011, February). How language shapes thought. *Scientific American*. Retrieved from <https://www.scientificamerican.com/article/how-language-shapes-thought>
- Bougea, A. M., Spandideas, N., Alexopoulos, E. C., Thomaidis, T., Chrousos, G. P., & Darviri, C. (2013). Effect of the Emotional Freedom Technique on perceived stress, quality of life, and cortisol salivary levels in tension-type headache sufferers: A randomized controlled trial. *Explore: The Journal of Science and Healing*, 9(2), 91–99. doi:10.1016/j.explore.2012.12.005
- Boyd, M. R., Lewis, C. C., Scott, K., Krendl, A., & Lyon, A. R. (2017). The creation and validation of the Measure of Effective Attributes of Trainers (MEAT). *Implementation Science*, 12(1), 73.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Braun, V., Clarke, V., & Hayfield, N. (2015). Thematic analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (3rd ed.). Los Angeles, CA: SAGE.
- British Association for Behavioural and Cognitive Psychotherapies (BABCP). (2019). *Provisional accreditation as a cognitive behavioural therapist*. Retrieved from <https://babcp.com/Accreditation/CBP/CBP-Provisional-Accreditation.aspx>
- British Association for Counselling and Psychotherapy (BACP). (2019). *Accredited membership*. Retrieved from <https://www.bacp.co.uk/membership/accredited-membership>
- British Psychological Society (BPS). (2014). *Code of human research ethics* (2nd ed.). Retrieved from <https://www.bps.org.uk/news-and-policy/bps-code-human-research-ethics-2nd-edition-2014>
- Chambless, D. L., Baker, M. J., Baucom, D. H., Beutler, L. E., Calhoun, K. S., Crits-Christoph, P., . . . Woody, S. R. (1998). Update on empirically validated therapies, II. *Clinical Psychologist*, 51, 3–16.
- Chatwin, H., Stapleton, P., Porter, B., Devine, S., & Sheldon, T. (2016). The effectiveness of cognitive behavioural therapy and emotional freedom techniques in reducing depression and anxiety among adults: A pilot study. *Integrative Medicine: A Clinician's Journal*, 15(2), 27–34.
- Chatzidamianos, G., Lobban, F., & Jones, S. (2015). A qualitative analysis of relatives', health professionals' and service users' views on the involvement in care of relatives in bipolar disorder. *BMC Psychiatry*, 15, 228. doi:10.1186/s12888-015-0611-x
- Church, D. (2014). Reductions in pain, depression, and anxiety symptoms after PTSD remediation in veterans. *Explore: The Journal of Science and Healing*, 10(3), 162–169. doi:10.1016/j.explore.2014.02.005
- Church, D., & Brooks, A. J. (2010). The effect of a brief EFT (Emotional Freedom Techniques) self-intervention on anxiety, depression, pain and cravings in healthcare workers. *Integrative Medicine: A Clinician's Journal*, 9(5), 40–44.
- Church, D., & Brooks, A. J. (2014). CAM and energy psychology techniques remediate PTSD symptoms in veterans and spouses. *Explore: The Journal of Science and Healing*, 10(1), 24–33. doi:10.1016/j.explore.2013.10.006
- Church, D., De Asis, M. A., & Brooks, A. J. (2012). Brief group intervention using EFT (Emotional Freedom Techniques) for depression in college students: A randomized controlled trial. *Depression Research and Treatment*, 2012, 1–7. doi:10.1155/2012/257172
- Church, D., & Feinstein, D. (2017). The manual stimulation of acupuncture points in the treatment of post-traumatic stress disorder: A review of Clinical Emotional Freedom Techniques. *Medical Acupuncture*, 29(4), 194–205. doi:10.1089/acu.2017.1213

- Church, D., & House, D. (2018). Borrowing benefits: Group treatment with Clinical Emotional Freedom Techniques is associated with simultaneous reductions in posttraumatic stress disorder, anxiety, and depression symptoms. *Journal of Evidence-Based Integrative Medicine*, 23. doi:10.1177/2156587218756510
- Church, D., & Palmer-Hoffman, J. (2014). TBI symptoms improve after PTSD remediation with Emotional Freedom Techniques. *Traumatology*, 20(3), 172–181.
- Church, D., Sparks, T., & Clond, M. (2016). EFT (Emotional Freedom Techniques) and resiliency in veterans at risk for PTSD: A randomized controlled trial. *Explore: The Journal of Science and Healing*, 12(5), 355–365. doi:10.1016/j.explore.2016.06.012
- Church, D., Stapleton, P., Yang, A., & Gallo, F. (2018). Is tapping on acupuncture points an active ingredient in Emotional Freedom Techniques (EFT)? A systematic review and meta-analysis of comparative studies. *Journal of Nervous and Mental Disease*, 206(10), 783–793. doi:10.1097/NMD.0000000000000878
- Church, D., Stern, S., Boath, E., Stewart, A., Feinstein, D., & Clond, M. (2017). Using Emotional Freedom Techniques (EFT) to treat PTSD in veterans: A review of the evidence, survey of practitioners, and proposed clinical guidelines. *Permanente Journal*, 21(2), 16–23.
- Church, D., Yount, G., & Brooks, A. J. (2012). The effect of Emotional Freedom Techniques on stress biochemistry: A randomized controlled trial. *Journal of Nervous and Mental Disease*, 200(10), 891–896. doi:10.1097/NMD.0b013e31826b9fc1
- Church, D., Yount, G., Rachlin, K., Fox, L., & Nelms, J. (2016). Epigenetic effects of PTSD remediation in veterans using clinical Emotional Freedom Techniques: A randomized controlled pilot study. *American Journal of Health Promotion*, 32(1), 112–122. doi:10.1177/0890117116661154
- Clond, M. (2016). Emotional Freedom Techniques for anxiety: A systematic review with meta-analysis. *Journal of Nervous and Mental Disease*, 204(5), 388–395. doi:10.1097/NMD.0000000000000483
- Cook, J. M., Biyanova, T., & Coyne, J. C. (2009). Comparative case study of diffusion of eye movement desensitization and reprocessing in two clinical settings: Empirically supported treatment status is not enough. *Professional Psychology: Research and Practice*, 40(5), 518–524. doi:10.1037/a0015144
- Cook, S. C., Schwartz, A. C., & Kaslow, N. J. (2017). Evidence-based psychotherapy: Advantages and challenges. *Neurotherapeutics*, 14(3), 537–545. doi:10.1007/s13311-017-0549-4
- Craig, G., & Fowlie, A. (1995). *Emotional Freedom Techniques: The manual*. Sea Ranch, CA: Gary Craig.
- David, D., Cristea, I., & Hofmann, S. G. (2018). Why cognitive behavioral therapy is the current gold standard of psychotherapy. *Frontiers in Psychiatry*, 9, 4. doi:10.3389/fpsy.2018.00004
- Dhond, R.P., Kettner, N., & Napadow, V. (2007). Neuroimaging acupuncture effects in the human brain. *Journal of Alternative and Complementary Medicine*, 13(6), 603–616. doi:10.1089/acm.2007.7040
- EFT International. (2020). *Accredited EFT certification*. Retrieved from <https://eftinternational.org/eft-training/accreditation-and-certification>
- EFT Universe. (2020). *Clinical EFT certification*. Retrieved from <https://www.eftuniverse.com/certification/clinical-eft-certifications>
- EMDR Academy. (2019). *Eligibility criteria*. Retrieved from <https://www.emdracademy.co.uk/eligibility>
- Fang, J., Jin, Z., Wang, Y., Li, K., Kong, J., Nixon, E. E., . . . Hui, K. K. (2009). The salient characteristics of the central effects of acupuncture needling: Limbic-paralimbic-neocortical network modulation. *Human Brain Mapping*, 30(4), 1196–1206. doi:10.1002/hbm.20583
- Feinstein, D. (2012). Acupoint stimulation in treating psychological disorders: Evidence of efficacy. *Review of General Psychology*, 16(4), 364–380. doi:10.1037/a0028602
- Feinstein D. (2018). Energy psychology: Efficacy, speed, mechanisms. *Explore: The Journal of Science and Healing*, 15(5), 340–351. doi:10.1016/j.explore.2018.11.003
- Finando, S., & Finando, D. (2012). Qi, acupuncture, and the fascia: A reconsideration of the fundamental principles of acupuncture. *Journal of Alternative and Complementary Medicine*, 18(9), 880–886. doi:10.1089/acm.2011.0599
- Gaesser, A. H., & Karan, O. C. (2017). A randomized controlled comparison of Emotional Freedom Technique and Cognitive-Behavioral Therapy to reduce adolescent anxiety: A pilot study. *Journal of Alternative and Complementary Medicine*, 23(2), 102–108. doi:10.1089/acm.2015.0316
- Geronilla, L., Minewiser, L., Mollon, P., McWilliams, M., & Clond, M. (2016). EFT (Emotional Freedom Techniques) remediates PTSD and psychological symptoms in veterans: A randomized controlled replication trial. *Energy Psychology: Theory, Research, and Treatment*, 8(2), 29–41. doi:10.9769/EPJ.2016.8.2.LG
- Giannelli, M., Cuttini, M., Da Frè, M., & Buiatti, E. (2007). General practitioners' knowledge and practice of complementary/alternative medicine and its relationship with lifestyles: A population-based survey in Italy. *BMC Family Practice*, 8(1), 30. doi:10.1186/1471-2296-8-30
- Gilomen, S. A., & Lee, C. W. (2015). The efficacy of acupoint stimulation in the treatment of psychological distress: A meta-analysis. *Journal of Behavior Therapy and Experimental Psychiatry*, 48, 140–148. doi:10.1016/j.jbtep.2015.03.012
- Greenwald, R. (1994). Eye movement desensitization and reprocessing (EMDR): An overview. *Journal of Contemporary Psychotherapy*, 24(1), 15–34.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82.
- Hammarberg, K., Kirkman, M., & de Lacey, S. (2016). Qualitative research methods: When to use them and how to judge them. *Human Reproduction*, 31(3), 498–501. doi:10.1093/humrep/dev334
- Hariton, E., & Locascio, J. J. (2018). Randomised controlled trials—the gold standard for effectiveness research: Study design: Randomised controlled trials. *International Journal of Obstetrics and Gynaecology*, 125(13), 1716. doi:10.1111/1471-0528.15199
- Herbert, J. D., & Gaudiano, B. A. (2001). The search for the holy grail: Heart rate variability and Thought Field Therapy. *Journal of Clinical Psychology*, 57(10), 1207–1214. doi:10.1002/jclp.1087
- Hubbard, A. (2013). Eye movement desensitization and reprocessing (EMDR) treatment with combat veterans: A review

- of current literature. *Journal of Military and Government Counseling*, 1(2), 123–134.
- Hui, K. K. S., Liu, J., Makris, N., Gollub, R. L., Chen, A. J. W., Moore, C. I., . . . Kwong, K. K. (2000). Acupuncture modulates the limbic system and subcortical grey structures of the human brain: Evidence from fMRI studies in normal subjects. *Human Brain Mapping*, 9(1), 13–25.
- Hui, K. K. S., Liu, J., Marina, O., Napadow, V., Haselgrove, C., Kwong, K. K., . . . Makris, N. (2005). The integrated response of the human cerebro-cerebellar and limbic systems to acupuncture stimulation at ST 36 as evidenced by fMRI. *NeuroImage*, 27, 479–496. doi:10.1016/j.neuroimage.2005.04.037
- Hui, K. K. S., Marina, O., Liu, J., Rosen, B. R., & Kwong, K. K. (2010). Acupuncture, the limbic system, and the anti-correlated networks of the brain. *Autonomic Neuroscience*, 157(1–2), 81–90. doi:10.1016/j.autneu.2010.03.022
- Jones, S., Thornton, J., & Andrews, H. (2011). Efficacy of EFT in reducing public speaking anxiety: A randomized controlled trial. *Energy Psychology: Theory, Research, and Treatment*, 3(1), 19–32. doi:10.9769/EPJ.2011.3.1.SJ
- Karatzias, T., Power, K., Brown, K., McGoldrick, T., Begum, M., Young, J., . . . Adams, S. (2011). A controlled comparison of the effectiveness and efficiency of two psychological therapies for posttraumatic stress disorder: Eye Movement Desensitization and Reprocessing vs. Emotional Freedom Techniques. *Journal of Nervous and Mental Disease*, 199(6), 372–378. doi:10.1097/NMD.0b013e31821cd262
- Kelner, M., & Wellman, B. (1997). Health care and consumer choice: Medical and alternative therapies. *Social Science & Medicine*, 45(2), 203–212. doi:10.1016/s0277-9536(96)00334-6
- Khan, A. M., Dar, S., Ahmed, R., Bachu, R., Adnan, M., & Kotapati, V. P. (2018). Cognitive behavioral therapy versus eye movement desensitization and reprocessing in patients with post-traumatic stress disorder: Systematic review and meta-analysis of randomized clinical trials. *Cureus*, 10(9), e3250. doi:10.7759/cureus.3250
- Kim, B. H. (1962). Study on the reality of acupuncture meridians [in Korean]. *J Jo Sun Med*, 9(5), e13.
- Laws, K., Darlington, N., Kondel, T., McKenna, P. J., & Jauhar, S. (2018). Cognitive behavioural therapy for schizophrenia outcomes for functioning, distress and quality of life: A meta-analysis. *BMC Psychology*, 6(1), 32. doi:10.1186/s40359-018-0243-2
- Lee, B. S., Lee, B. C., Park, J. E., Choi, H. K., Choi, S. J., & Soh, K. S. (2014). Primo vascular system in human umbilical cord and placenta. *Journal of Acupuncture and Meridian Studies*, 7(6), 291–297. doi:10.1016/j.jams.2014.09.002
- Maharaj, M. E. (2016). Differential gene expression after Emotional Freedom Techniques (EFT) treatment: A novel pilot protocol for salivary mRNA assessment. *Energy Psychology: Theory, Research, and Treatment*, 8(1), 17–32. doi:10.9769/EPJ.2016.8.1.MM
- Moritz, S., Aravena, S. C., Guczka, S. R., Schilling, L., Eichenberg, C., Raubart, G., . . . Jelinek, L. (2011). Knock, and it will be opened to you? An evaluation of meridian-tapping in obsessive-compulsive disorder (OCD). *Journal of Behavior Therapy and Experimental Psychiatry*, 42(1), 81–88. doi:10.1016/j.jbtep.2010.07.002
- National Institute for Health and Care Excellence (NICE). (2018). *Post-traumatic stress disorder: NICE guideline* (NG116), Appendix L. Retrieved from <https://www.nice.org.uk/guidance/ng116>
- Nelms, J., & Castel, D. (2016). A systematic review and meta-analysis of randomized and non-randomized trials of Emotional Freedom Techniques (EFT) for the treatment of depression. *Explore: The Journal of Science and Healing*, 12(6), 416–426. doi:10.1016/j.explore.2016.08.001
- Nemiro, A., & Papworth, S. (2015). Efficacy of two evidence-based therapies, Emotional Freedom Techniques (EFT) and Cognitive Behavioral Therapy (CBT) for the treatment of gender violence in the Congo: A randomized controlled trial. *Energy Psychology: Theory, Research, and Treatment*, 7(2), 13–25. doi:10.9769/EPJ.2015.11.1.AN
- Ortner, N. (2013). *The tapping solution: A revolutionary system for stress-free living*. Carlsbad, CA: Hay House.
- Patterson, S. L. (2016). The effect of emotional freedom technique on stress and anxiety in nursing students: A pilot study. *Nurse Education Today*, 40, 104–110. doi:10.1016/j.nedt.2016.02.003
- Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology*, 11(1), 25–41.
- Rousseau, D. M., & Gunia, B. C. (2016). Evidence-based practice: The psychology of EBP implementation. *Annual Review of Psychology*, 67(1), 667–692. doi:10.1146/annurev-psych-122414-033336
- Sebastian, B., & Nelms, J. (2016). The effectiveness of Emotional Freedom Techniques in the treatment of posttraumatic stress disorder: A meta-analysis. *Explore: The Journal of Science and Healing*, 13(1), 16–25. doi:10.1016/j.explore.2016.10.001
- Sezgin, N., & Özcan, B. (2009). The effect of progressive muscular relaxation and Emotional Freedom Techniques on test anxiety in high school students: A randomized controlled trial. *Energy Psychology: Theory, Research, and Treatment*, 1(1), 23–30. doi:10.9769/EPJ.2009.1.1.NS
- Shapiro, F. (1995). *Eye movement desensitization and reprocessing: Basic principles, protocols, and procedures* (1st ed.). New York, NY: Guilford Press.
- Shapiro, F. (1996). Eye movement desensitization and reprocessing (EMDR): Evaluation of controlled PTSD research. *Journal of Behavior Therapy and Experimental Psychiatry*, 27(3), 209–218. doi:10.1016/s0005-7916(96)00029-8
- Shapiro F. (2014). The role of eye movement desensitization and reprocessing (EMDR) therapy in medicine: Addressing the psychological and physical symptoms stemming from adverse life experiences. *Permanente Journal*, 18(1), 71–77. doi:10.7812/TPP/13-098
- Sikes, C., & Sikes, V. (2003). EMDR: Why the controversy? *Traumatology*, 9(3), 169–182. doi:10.1177/153476560300900304
- Soh, K. S. (2009). Bonghan circulatory system as an extension of acupuncture meridians. *Journal of Acupuncture and Meridian Studies*, 2(2), 93–106. doi:10.1016/s2005-2901(09)60041-8.
- Soh, K. S., Kang, K. A., & Ryu, Y. H. (2013). 50 years of Bong-Han theory and 10 years of primo vascular system. *Evidence-Based Complementary and Alternative Medicine*, 2013, 587827. doi:10.1155/2013/587827
- Stapleton, P., & Chatwin, H. (2017). Determining highly desirable traits of an effective Emotional Freedom Techniques

- practitioner: A Delphi study. *Energy Psychology: Theory, Research, and Treatment*, 9(2), 13–25. doi:10.9769/EPJ.2017.9.2.PS
- Stapleton, P., Crighton, G., Sabot, D., & O'Neill, H. M. (2020, March 12). Re-examining the effect of emotional freedom techniques on stress biochemistry: A randomized controlled trial. *Psychological Trauma: Theory, Research, Practice, and Policy*. doi:10.1037/tra0000563
- Stapleton, P., Devine, S., Chatwin, H., Porter, B., & Sheldon, T. (2014). A feasibility study: Emotional freedom techniques for depression in Australian adults. *Current Research in Psychology*, 5(1), 19–33.
- Stussman, B. J., Nahin, R. R., Barnes, P. M., & Ward, B. W. (2020). U.S. physician recommendations to their patients about the use of complementary health approaches. *Journal of Alternative and Complementary Medicine*, 26(1), 25–33. doi:10.1089/acm.2019.0303
- Su, D., & Li, L. (2011). Trends in the use of complementary and alternative medicine in the United States: 2002–2007. *Journal of Health Care for the Poor and Underserved*, 22(1), 296–310. doi:10.1353/hpu.2011.0002
- Thomas, R. M., Cutinho, S. P., & Aranha, D. M. S. (2017). Emotional Freedom Techniques (EFT) reduces anxiety among women undergoing surgery. *Energy Psychology: Theory, Research, and Treatment*, 9(1), 18–25. doi:10.9769/EPJ.2017.9.1.RT
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated Criteria for Reporting Qualitative Research. (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. doi:10.1093/intqhc/mzm042
- Valiente-Gómez, A., Moreno-Alcázar, A., Treen, D., Cedrón, C., Colom, F., Pérez, V., & Amann, B. L. (2017). EMDR beyond PTSD: A systematic literature review. *Frontiers in Psychology*, 8, 1668. doi:10.3389/fpsyg.2017.01668
- Van Zanten, M., Boulet, J. R., & Greaves, I. (2012). The importance of medical education accreditation standards. *Medical Teacher*, 34(2), 136–145. doi:10.3109/0142159X.2012.643261
- Wells, S., Polglase, K., Andrews, H. B., Carrington, P., & Baker, A. H. (2003). Evaluation of a meridian-based intervention, Emotional Freedom Techniques (EFT), for reducing specific phobias of small animals. *Journal of Clinical Psychology*, 59(9), 943–966. doi:10.1002/jclp.10189
- Wiese, M., & Oster, C. (2010). ‘Becoming accepted’: the complementary and alternative medicine practitioners’ response to the uptake and practice of traditional medicine therapies by the mainstream health sector. *Health*, 14(4), 415–433. doi:10.1177/1363459309359718
- Willig, C. (2013). *Introducing qualitative research in psychology* (3rd ed.) New York, NY: Open University Press.
- Willig, C., & Stainton-Rogers, W. (Eds.). (2017). *The SAGE Handbook of Qualitative Research in Psychology* (2nd ed.). Thousand Oaks, CA: SAGE.
- Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Palo Alto, CA: Stanford University Press.
- World Health Organization (WHO). (2013). *Guidelines for the management of conditions specifically related to stress*. Geneva, Switzerland: WHO.
- Young, J. C., Rose, D. C., Mumby, H. S., Benitez-Capistros, F., Derrick, C. J., Finch, T., . . . Parkinson, S. (2018). A methodological guide to using and reporting on interviews in conservation science research. *Methods in Ecology and Evolution*, 9(1), 10–19.
- Zhang, Y., Feng, B., Xie, J. P., Xu, F. Z., & Chen, J. (2011). Clinical study on treatment of the earthquake-caused post-traumatic stress disorder by cognitive-behavior therapy and acupuncture stimulation. *Journal of Traditional Chinese Medicine*, 31(1), 60–63. doi:10.1016/s0254-6272(11)60014-9

The Well-Referred Dentist: The Essential Hidden Steps to a Profitable and Anxiety-Free Practice

Bita Saleh, DDS

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Reviewed by John Freedom

Many people have dental anxiety, fears of going to the dentist. Drilling, filling, and other dental procedures are not pleasant, and we can readily empathize with these folks. But what about the dentists who have to deal with these patients? Many feel helpless and frustrated with their patients. They go home at the end of the day feeling exhausted and drained, only to turn around and do it all over again the next day. Some choose to avoid looking at their schedules because seeing the name of that one difficult patient can ruin their entire day. Some wonder why they even chose this profession but cannot walk away from a busy practice in which they have invested many years and thousands of dollars.

Thus both dentist and patient often feel stressed and miserable. Dentists are stressed because they don't know how to handle these patients and patients are stressed because each time they walk into a dental office they get triggered by past memories and traumas. This leads to a vicious cycle wherein the patient avoids seeing the dentist regularly, resulting in poor oral hygiene and deterioration of teeth and gums, prompting lengthier and more costly treatment.

As a practicing dentist, Dr. Saleh has seen both sides of this dilemma. Most dentists are highly skilled at their craft, but mastering technical skills and performing surgeries are only part of any medical art. For those who aspire to be true healers, to help their patients heal physically, mentally and spiritually, much more is required. Saleh writes:

“True healing from the core of a being is multidimensional, and it takes time.... It requires awareness and action not only from the will, but also from every part, every cell, everything that constitutes who we are. Above all else, it requires courage from the patient as well as the healer.... Serving your patients requires a spoonful of courage every second of every day, and it continues after hours affecting every decision that you make....”

The Well-Referred Dentist is the story of Saleh's journey from dentist to healer. She begins:

“Dentistry to me is a unique combination of art, science, and indescribable beauty. The following describes my love and testament for teeth in a way that only a dentist may understand. As I try to explain the story of teeth... words fail me in my attempt to capture their uniqueness. The flawlessly efficient way that they function every moment of every day is only recognized and respected by those who understand their way... teeth undergo insurmountable stress every day as their humans clench and grind in each and every way. They help us eat and speak and feel confidence in the world, and yet we forget to care for them... Despite the lack of care, they continue to faithfully serve without entertaining the thought of abandoning their post.”

Standard dental practice depersonalizes the patient even as it treats the disease. Often dentists are not educated to treat the inner life of a person in crisis. Saleh realized the need to treat the whole person, the human being in the body, and not just the part that was in pain. She thus began her journey of practicing holistic dentistry, in which the patient is an integral part of the healing process.

Saleh relates her struggles to be a compassionate healer in a culture that puts production and profits first. She describes the challenges that occurred when she bought a practice from a retiring dentist, and his patients walked in with problems he had created. When she informed them what would be

required to repair their teeth correctly, they thought she wanted to “milk them dry of all their money.” She describes the cognitive dissonance that occurred when she explained why their recently completed dental work was failing, and yet they chose to believe the previous dentist, even though he was the one who had caused their problems.

At the same time, her business stagnated and she was not making enough money to pay her overhead and school debt. She was working 10-hour days, deep in debt, no time for a social life, and feeling exhausted and unfulfilled. She had thoughts that kept her awake at night:

Why don't my patients trust me?

Why don't they accept my treatment plans?

Why don't they see that I have their best interest at heart more than anyone else does?

What good is all my expertise in dentistry when I'm not given permission to do what I know best?

Saleh describes the taboo of talking about patients' feelings and the “triad of obstacles” dentists face with their patients: fear, anxiety, and limiting beliefs. She states that “fear and anxiety are the root causes of most forms of resistance hindering dentists' relationships with their patients and the success of their business.” Yet the dental profession offered no answers.

It was during this period of personal frustration and despair that Saleh discovered Energy Psychology. EP is a set of therapeutic modalities that heal pain and symptoms by treating blockages in the human biofield. She studied Thought Field Therapy at Energy Medicine University and began practicing the techniques. By creating customized meridian sequences for her patients, she was able to eliminate their dental anxiety in minutes.

In 2016, Saleh conducted a pilot research study with eight patients, using a brief, self-administered tapping sequence. She found that this four-minute algorithm reduced patients' anxiety by 35%, which was “the difference between a dentist not being able to treat a patient vs. the patient being able to sit in the dental chair with a fair amount of ease and comfort long enough for the dentist to perform an emergency treatment...” Her research was published in the May 2017 issue of *Energy Psychology* (“The Effect of Emotional Freedom Techniques on Patients with Dental Anxiety: A Pilot Study”).

The Well-Referred Dentist includes instructions on how to do manual muscle testing, as well as how to detect and correct energetic imbalances. There is a very thorough discussion of psychological reversals and how to diagnose and treat them, and how to create customized meridian sequences. Saleh cautions the reader: “One shoe does not fit all. Every individual requires their own unique sequence of meridian tapping treatment, which is based on so many factors including their individual experience, how that experience negatively impacted them, which negative beliefs and psychological reversals were formed, and which meridians were disrupted...”

Throughout her story, Saleh sprinkles interesting anecdotes. She describes trusting and using her intuition, for example, knowing when her patient's anesthesia was starting to wear off. The effect of having a dentist who is intuitive and has enough self-esteem to trust that intuition translates into her patients feeling cared for and safe.

In short, this is the story of one woman's journey from dentist to healer, but it is also a story of hope, letting dentists and medical professionals know that there is much more to medicine than merely treating symptoms. People are much more than their teeth and gums, and they need treatment for their whole persons, for their fears as well as their fillings. There are rapid and effective ways to relieve fears and anxieties, and to build therapeutic alliances based on trust and integrity.

The Well-Referred Dentist is highly recommended reading for every dentist and medical professional aspiring to a more effective and satisfying level of health care for their patients and for themselves.

John Freedom, CEHP, serves as research coordinator for the Association for Comprehensive Energy Psychology (ACEP), holds certifications in EFT, EMDR, and auricular acupuncture, and is the author of Heal Yourself with Emotional Freedom Technique. Email: freejiii@gmail.com

Your Power to Heal: Resolving Psychological Barriers to Your Physical Health

Henry Grayson, PhD

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Reviewed by Sherry Rueger Banaka

Your Power to Heal, by Henry Grayson, PhD, is filled with clear and insightful explanations of how and why our very thoughts create *dis-ease*; how this leads to actual physical disease and pain when we don't pay attention to the early warning signals our bodies are sending us; and how we can reverse that and return ourselves to full health. He supports this with examples of his own healing and the healings experienced by others in clinical trials.

Dr. Grayson provides practical, easy-to-use questionnaires aimed at discovering the hidden causes and benefits of an illness, the relationship to negative and inherited beliefs, and the traumas sabotaging our health. He provides myriad tools and exercises to clear these, followed by further exercises and health-enhancing practices to create and support new neural pathways for increased flow of positive instructions to our bodies.

Threaded throughout, Dr. Grayson also cites quantum physics research supporting the view that, in reality, we are all interconnected as integral parts of the unified field. It is our sense of separateness that presents the greatest barrier to our health and wellness by keeping us in the illusion of powerlessness and victimization.

I thoroughly enjoyed reading *Your Power to Heal* and have benefited from it both personally and in ways I will use in my practice to aid and support my clients in their healing. I highly recommend this book to anyone seeking to enhance their own health, the health of their clients, and the health of the world.

Sherry Rueger Banaka is a certified Clinical EFT/EP practitioner who gently guides clients to move safely through their emotional distress, gain access to their inner wisdom, and replace their unconscious choices with the conscious choices they want in their lives. Email: sherry@sherryruegerbanaka.com

Loving Out Loud: The Power of a Kind Word

Robyn Spizman

New World Library, 2019

Softcover, 288 pages

\$16.95

ISBN: 978-1608686407

Reviewed by Steve Manire

LOL...“laughing out loud,” right?

Not for Robyn Spizman. For her, LOL is shorthand for “Loving Out Loud,” and her book is a smorgasbord of creative and effective ways we can express love to the people in our lives (including ourselves). The book’s goals are to spread love, in the hopes of making this world a better place, and to create more meaning in our lives, to have a life well lived, without regret. Each chapter includes discussion of LOL thoughts and deeds we can do, real-life examples of LOL in action, and three practical actions to jumpstart our LOL habit.

Robyn Spizman has the credentials to write this book: She is a television personality who has often appeared on the *Today Show* and others and an award-winning *New York Times* bestselling author (16 books authored or coauthored). Judging by her bio in the book, she does not have to worry about what to do with her spare time.

An enjoyable read, it perplexed me how to write a review, as every page has significant information, ideas, and quotable material. Could just say: “Read this book, now. Then read it again and again, take it in, and day by day put into action this simple plan to make your life more meaningful and loving, and the world a better place in which to live.”

But that would leave lot of white space on the page, so let’s elaborate on the “smorgasbord” metaphor by enjoying an LOL Meal, as served to us by Chef Spizman!

APPETIZER: She starts us off with a pu-pu platter of suggestions to prepare us for the rest of the meal: Do Your Giving Out Loud; Master the Art of Appreciation; It’s More Interesting to Be Interested; Give the Gift of Listening; Ask for the Gift of Listening; Just Remember This; Look for the Good—and You’ll Find It! No matter how much of this you consume, it won’t spoil your appetite for the rest of the meal, so dig in.

SALAD: A bed of leafy Gratitude and nutritious “Thank You” Can Brighten Your Life. Topped with “Sharing Your Thank You Language” croutons and dressed liberally with “Pay Little Attentions to Others” on a daily basis will brighten others’ spirits and yours!

ENTRÉE: There are several to choose from. Chef Spizman suggests we try them all:

- The scrumptious “Inspire Your Partner to Love You Out Loud” will certainly add zest to your days (and nights?) and you’ll feel safe and secure.
- A large portion of “Raising Kinder Children”—who can resist this one?—is essential to a balanced Life meal. This is one you will definitely want to have with every meal, and even for in-between-meal snacks!
- “Bonding With Your Family”—An entrée all too often neglected, but so vital to a healthy life and world. Some people may have gotten a bad taste in their souls from early samples of family, but it is never too late to find a family recipe that pleases. Come on, try it, you’ll like it!
- While “Loving Your Friends Out Loud” is partaken by many on special occasions, such as birthdays or holidays, it is delicious any day and any time of the year. Turn an ordinary day into a special day with an unexpected entrée of appreciation to your friends.

SIDE DISHES: “Loving Out Loud” is not just for family and close friends. A healthy heaping of “Loving Out Loud at Work, by Volunteering, and On the Go” makes a perfect side dish with any of

the entrées. It comes in a variety of preparations and seasonings: Teamwork Makes the Dream Work; Make a Difference a Day; Volunteer and Give Back; Give Awards and Recognition; and, simply, Kindness Works! Just imagine working in such an environment of mutual love and appreciation—then go and make it happen.

DESSERTS: Desserts are definitely a specialty of Chef Spizman, with her creativity feeding us and leading us into our own heart space where we are able truly to express our love by “Creating Love-Out-Loud Moments and Gifts.” See what can be done with “The Music of Love, Sweet Love,” and be sure to “Focus on the Manner in Which You Gift”—you’ll find that “Incredible and Edible Gifts” are cool! Gifts for remembering or creating “Traditions for Every Season” will be savored long after the gifting moment. Gifting a “Forget-Me-Not Collection” could be just the thing for a picky palate.

AFTER-DINNER DRINK: Drink deeply of love by “Cherishing Loved Ones and Preserving Memories”—yes, “Value the Sentimental Connection” and feel your heart glow. “Honor Loved Ones and the Dearly Departed”—give a toast to celebrate and cherish their lives and the significance they have had in your own life.

To put “Love in Action,” Spizman asks: “What Have You Done for Mankind Today?” and she challenges us to “Be an Ambassador of Love and Create Your Best Life.”

What more could one ask?

Perhaps one of the best things about an LOL Meal is that it doesn’t cost you a thing while it pays great dividends. And it is absolutely calorie free!

I think that if we do more LOL (Loving Out Loud) we will likely do more LOL (Laughing Out Loud) from the joy we will give and receive!

Steve Manire, DC, practiced as a holistic chiropractor for 30 years. He began using EFT/EP in 2004 and became a coach with the Veterans Stress Project (stressproject.org). No longer in active practice, he still directs people toward Energy Psychology when the moment allows, sort of a Johnny Appleseed for Energy Psychology. Email: steve.manire@gmail.com

Who's in Your Room: The Secret to Creating Your Best Life

Ivan Misner, PhD, Stewart Emery, LHD, and Rick Sapio

Indigo River, 2018

Softcover, 104 pages

\$15.95

ISBN: 978-1948080460

It's rare that a slim volume can make you rethink your entire life. But the book *Who's in Your Room* by Ivan Misner, Stewart Emery, and Rick Sapio is one of those rare examples.

It uses the analogy of a room to spark you to think about whom you allow into your life. Your room has only one door and there's no way out. The people you've allowed in stay there forever, and as the authors take you through one thought experiment after another, you quickly realize you've been indiscriminate about who you allow into your life.

They then offer you a series of exercises to encourage conscious choices. The first is to evaluate and define your personal values. Once you have them in writing, you can compare the profiles of who you're allowing into your room with your values, to determine whether the newcomers are aligned with them or not. You quickly realize that you've been allowing people in for all kinds of reasons, few of which have anything to do with whether they're congruent with your values.

Next they introduce the idea of the "doorman." The doorman is your conscious and subconscious mind, and you can program this assistant to allow in only those people you want. Remember—no one ever leaves. You only want people in there who will make a genuine contribution to your life.

The authors then write about people who are in there already and who you can't evict, so you don't know how to dispose of them. They introduce the idea of putting them in a box or on a shelf, so that while they're still there, they have limited impact on your life.

The authors teach you to manage the people in your room by determining what's really important to you personally. At that point, you've determined how to spend your time and the people with whom to spend it.

This is one of those timeless and provocative books like *Who Moved My Cheese* by Spencer Johnson. It has the potential to shake up the way you see your life in the world, to take conscious control, and populate your room with people who truly contribute to your well-being. Though a quick read, I highly recommend this book.

Conscious Fitness: Strength Training for the Evolution of Body, Mind, and Spirit

Catt Tripoli

Bull Terrier, 2016

Softcover, 264 pages

\$17.95

ISBN: 978-0692675724

The title of this book can set up jarring cognitive dissonance—the words “conscious” and “fitness” in the same sentence? Hard to imagine.

Yet if we want to eat consciously, live mindfully, and construct our lives with elevated awareness, why should exercise be an exception?

Author Catt Tripoli is a former professional world champion bodybuilder. In her 20s, she won international titles, yet despite her fame and fitness she felt that something was deeply lacking in her experience. This led to a spiritual quest strongly influenced by Eastern and Native American thought. She began to bring the principles of mindfulness and traditional wisdom into her fitness routine.

This led to mindful exercises such as visualizing the shape and position of the muscles she was using to lift each particular set of weights. She now shares this profound journey with us in her book *Conscious Fitness*.

After telling her inspiring personal story, Catt begins with sharing the four most critical weightlifting exercises, and how they engage 70% of the muscles in your body. She draws from her certification in hypnotherapy in Chapter 4, “The Gem Within: Getting Your Mind in Shape.”

She cites the wealth of research showing that weight lifting contributes to every dimension of well-being, from longevity to cognition. She gives a concise overview of the three types of strength training: power lifting, conditioning, and bodybuilding. She provides a summary of the pros and cons of each, and it is apparent at this point in the book that bodybuilding is essential for all of us, no matter what our age.

Catt then walks us through seven distinct aspects of conscious weightlifting in a way that will have you tuning in to your body in a whole different way. She encourages variety rather than repeating the same routine over and over again. She ends the book with a chapter on conscious eating, showing how dietary choices play a dramatic role in shaping our bodies.

This book is way ahead of its time. Few of us have thought to merge spirituality with our workouts in the gym. Yet this is exactly what Catt does. She shows how the gym can be a temple, contributing to our spiritual growth as much as meditation or time in nature. This book will stimulate you to see your body differently and bring sanctity to the workout, where she maintains it has always belonged.

Someday Is Not a Day in the Week: 10 Hacks to Make the Rest of Your Life the Best of Your Life

Sam Horn

St. Martin's Press, 2019

Hardcover, 288 pages

\$27.99

ISBN: 978-1250201225

Most of us have a nagging suspicion that our lives should be different. Yet we don't know where to begin making the change. In this book, legendary speaking coach Sam Horn provides us with 10 simple strategies to get us started.

Sam is a master at putting powerful ideas into simple actionable packages, as her 10 previous books attest. Here she first has us mine our history to understand what has made us happy in the past and what we imagine will make us happy in the future.

Her next step is to have us translate that into an activity that we will complete by a finite date. When you confront yourself in this way, old thoughts and beliefs often pop up, and Sam's third life hack is to learn how to let go of these.

From there she moves on to the short term. What can you do today that will move your life forward? It doesn't have to be enormous—it can be small—but it must move you toward your bigger goal.

She then has you notice what is working well in your life and affirm the people who are nurturing you on your journey.

She begins the book with her moving story of her father. His dream was to visit all the national parks in the U.S. when he retired. For decades, he worked six to seven days a week. Finally, after retirement, he began his long-delayed dream.

A week into the trip, in a hotel bathroom, he had a stroke. He never got to visit the Grand Tetons, the Great Smoky Mountains, or Zion. He never got to do the very thing he had dreamed of his entire life. This motivated Sam to write this inspiring and touching book.

Consider using her hacks to create time for what truly matters to you now, not later. Life is much too precious to postpone. The 10 small changes that Sam recommends in this book can make you happier, healthier, and more fulfilled. To actualize them, you don't have to win the lottery, quit work, or leave your family. This book will motivate you to stop procrastinating and create a life that embodies your dreams.

Research review: Psychological and psychosocial treatments for children and young people with post-traumatic stress disorder: A network meta-analysis

Mavranetzouli, I., Megnin-Viggars, O., Daly, C., Dias, S., Stockton, S., Meiser-Stedman, R., ... Pilling, S. (2020). Research review: Psychological and psychosocial treatments for children and young people with post-traumatic stress disorder: A network meta-analysis. *Journal of Child Psychology and Psychiatry*, 61(1), 18–29. doi:10.1111/jcpp.13094

Background: Post-traumatic stress disorder (PTSD) is a potentially chronic and disabling disorder that affects a significant minority of youth exposed to trauma. Previous studies have concluded that trauma-focused cognitive behavioral therapy (TF-CBT) is an effective treatment for PTSD in youth, but the relative strengths of different psychological therapies are poorly understood.

Methods: We undertook a systematic review and network meta-analyses of psychological and psychosocial interventions for children and young people with PTSD. Outcomes included PTSD symptom change scores post-treatment and at one- to four-month follow-up, and remission post-treatment.

Results: We included 32 trials of 17 interventions and 2,260 participants. Overall, the evidence was of moderate-to-low quality. No inconsistency was detected between direct and indirect evidence. Individual forms of TF-CBT showed consistently large effects in reducing PTSD symptoms post-treatment compared with waitlist. The order of interventions by descending magnitude of effect versus waitlist was as follows: cognitive therapy for PTSD (SMD -2.94 , 95%CrI -3.94 to -1.95), combined somatic/cognitive therapies, child-parent psychotherapy, combined TF-CBT/parent training, meditation, narrative exposure, exposure/prolonged exposure, play therapy, Cohen TF-CBT/cognitive processing therapy (CPT), Eye Movement Desensitization and Reprocessing (EMDR), parent training, group TF-CBT, supportive counseling and family therapy (SMD -0.37 , 95%CrI -1.60 to 0.84). Results for parent training, supportive counseling and family therapy were inconclusive. Cohen TF-CBT/CPT, group TF-CBT and supportive counseling had the largest evidence base. Results regarding changes in PTSD symptoms at follow-up and remission post-treatment were uncertain due to limited evidence.

Conclusions: Trauma-focused cognitive behavioral therapy, in particular individual forms, appears to be most effective in the management of PTSD in youth. EMDR is effective but to a lesser extent. Supportive counseling does not appear to be effective. Results suggest a large positive effect for Emotional Freedom Technique, child-parent psychotherapy, combined TF-CBT/parent training, and meditation, but further research is needed to confirm these findings as they were based on very limited evidence.

Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis

Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2008). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(1), 3–36. doi:10.1037/1942-9681.S.1.3

Abstract

(This reprinted article originally appeared in 2003 in *Psychological Bulletin*, 129(1), 52–73.) A review of 2,647 studies of posttraumatic stress disorder (PTSD) yielded 476 potential candidates for a meta-analysis of predictors of PTSD or of its symptoms. From these, 68 studies met criteria for inclusion in a meta-analysis of seven predictors: (a) prior trauma, (b) prior psychological adjustment, (c) family history of psychopathology, (d) perceived life threat during the trauma, (e) posttrauma social support, (f) peritraumatic emotional responses, and (g) peritraumatic dissociation. All yielded significant effect sizes, with family history, prior trauma, and prior adjustment the smallest (weighted $r = .17$) and peritraumatic dissociation the largest (weighted $r = .35$). The results suggest that peritraumatic psychological processes, not prior characteristics, are the strongest predictors of PTSD.

Reproducible genetic risk loci for anxiety: Results from ~200,000 participants in the Million Veteran Program

Levey, D. F., Gelernter, J., Polimanti, R., Zhou, H., Cheng, Z., Aslan, M., ... Sullivan, P. F. (2020). Reproducible genetic risk loci for anxiety: Results from ~200,000 participants in the Million Veteran Program. *American Journal of Psychiatry*, 177(3), 223–232. doi:10.1176/appi.ajp.2019.1903025

Objective: Anxiety disorders are common and often disabling. The goal of this study was to examine the genetic architecture of anxiety disorders and anxiety symptoms, which are also frequently comorbid with other mental disorders, such as major depressive disorder.

Methods: Using one of the world's largest biobanks including genetic, environmental, and medical information, the Million Veteran Program, the authors performed a genome-wide association study (GWAS) of a continuous trait for anxiety (based on score on the Generalized Anxiety Disorder 2-item scale [GAD-2], $N = 199,611$) as the primary analysis and self-report of physician diagnosis of anxiety disorder ($N = 224,330$) as a secondary analysis.

Results: The authors identified five genome-wide significant signals for European Americans and one for African Americans on GAD-2 score. The strongest were on chromosome 3 (rs4603973) near *SATB1*, a global regulator of gene expression, and on chromosome 6 (rs6557168) near *ESRI*, which encodes an estrogen receptor. The locus identified on chromosome 7 (rs56226325, MAF = 0.17) near *MAD1L1* was previously identified in GWASs of bipolar disorder and schizophrenia. The authors replicated these findings in the summary statistics of two major published GWASs for anxiety, and also found evidence of significant genetic correlation between the GAD-2 score results and previous GWASs for anxiety ($r_g = 0.75$), depression ($r_g = 0.81$), and neuroticism ($r_g = 0.75$).

Conclusions: This is the largest GWAS of anxiety traits to date. The authors identified novel genome-wide significant associations near genes involved with global regulation of gene expression (*SATB1*) and the estrogen receptor alpha (*ESRI*). Additionally, the authors identified a locus (*MAD1L1*) that may have implications for genetic vulnerability across several psychiatric disorders. This work provides new insights into genetic risk mechanisms underpinning anxiety and related psychiatric disorders.

Early childhood deprivation is associated with alterations in adult brain structure despite subsequent environmental enrichment

Mackes, N., Golm, D., Sarkar, S., Kumsta, R., Rutter, M., Fairchild, G., ... Sonuga-Barke, E. (2019). Early childhood deprivation is associated with alterations in adult brain structure despite subsequent environmental enrichment. *Proceedings of the National Academy of Sciences*, 117(1), 641–649.

Abstract

Early childhood deprivation is associated with higher rates of neurodevelopmental and mental disorders in adulthood. The impact of childhood deprivation on the adult brain and the extent to which structural changes underpin these effects are currently unknown. To investigate these questions, we utilized MRI data collected from young adults who were exposed to severe deprivation in early childhood in the Romanian orphanages of the Ceaușescu era and subsequently adopted by UK families; 67 Romanian adoptees (with between three and 41 months of deprivation) were compared with 21 nondeprived UK adoptees. Romanian adoptees had substantially smaller total brain volumes (TBVs) than nondeprived adoptees (8.6% reduction), and TBV was strongly negatively associated with deprivation duration. This effect persisted after covarying for potential environmental and genetic confounds. In whole-brain analyses, deprived adoptees showed lower right inferior frontal surface area and volume but greater right inferior temporal lobe thickness, surface area, and volume than the nondeprived adoptees. Right medial prefrontal volume and surface area were positively associated with deprivation duration. No deprivation-related effects were observed in limbic regions. Global reductions in TBV statistically mediated the observed relationship between institutionalization and both lower intelligence quotient (IQ) and higher levels of attention deficit/hyperactivity disorder symptoms. The deprivation-related increase in right inferior temporal volume seemed to be compensatory, as it was associated with lower levels of attention deficit/hyperactivity disorder symptoms. We provide compelling evidence that time-limited severe deprivation in the first years of life is related to alterations in adult brain structure, despite extended enrichment in adoptive homes in the intervening years.

In pursuit of resilience: Stress, epigenetics, and brain plasticity

McEwen, B. S. (2016). In pursuit of resilience: Stress, epigenetics, and brain plasticity. *Annals of the New York Academy of Sciences*, 1373(1), 56–64. doi:10.1111/nyas.13020

Abstract

The brain is the central organ for adaptation to experiences, including stressors, which are capable of changing brain architecture as well as altering systemic function through neuroendocrine, autonomic, immune, and metabolic systems. Because the brain is the master regulator of these systems, as well as of behavior, alterations in brain function by chronic stress can have direct and indirect effects on cumulative allostatic overload, which refers to the cost of adaptation. There is much new knowledge on the neural control of systemic physiology and the feedback actions of physiologic mediators on brain regions regulating higher cognitive function, emotional regulation, and self-regulation. The healthy brain has a considerable capacity for resilience, based upon its ability to respond to interventions designed to open “windows of plasticity” and redirect its function toward better health. As a result, plasticity-facilitating treatments should be given within the framework of a positive behavioral intervention; negative experiences during this window may even make matters worse. Indeed, there are no magic bullets and drugs cannot substitute for targeted interventions that help an individual become resilient, of which mindfulness-based stress reduction and meditation are emerging as useful tools.

Deep brain stimulation of the ventral striatum enhances extinction of conditioned fear

Rodriguez-Romaguera, J., Do Monte, F. H., & Quirk, G. J. (2012). Deep brain stimulation of the ventral striatum enhances extinction of conditioned fear. *Proceedings of the National Academy of Sciences*, 109(22), 8764–8769. doi:10.1073/pnas.1200782109

Abstract

Deep brain stimulation (DBS) of the ventral capsule/ventral striatum (VC/VS) reduces symptoms of intractable obsessive-compulsive disorder (OCD), but the mechanism of action is unknown. OCD is characterized by avoidance behaviors that fail to extinguish, and DBS could act, in part, by facilitating extinction of fear. We investigated this possibility by using auditory fear conditioning in rats, for which the circuits of fear extinction are well characterized. We found that DBS of the VS (the VC/VS homolog in rats) during extinction training reduced fear expression and strengthened extinction memory. Facilitation of extinction was observed for a specific zone of dorsomedial VS, just above the anterior commissure; stimulation of more ventrolateral sites in VS impaired extinction. DBS effects could not be obtained with pharmacological inactivation of either dorsomedial VS or ventrolateral VS, suggesting an extrastriatal mechanism. Accordingly, DBS of dorsomedial VS (but not ventrolateral VS) increased expression of a plasticity marker in the prelimbic and infralimbic prefrontal cortices, the orbitofrontal cortex, the amygdala central nucleus (lateral division), and intercalated cells, areas known to learn and express extinction. Facilitation of fear extinction suggests that, in accord with clinical observations, DBS could augment the effectiveness of cognitive behavioral therapies for OCD.

Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *JAMA*, 301(21), 2252–2259. doi:10.1001/jama.2009.754

Abstract

A scientific consensus is emerging that the origins of adult disease are often found among developmental and biological disruptions occurring during the early years of life. These early experiences can affect adult health in two ways: either by cumulative damage over time or by the biological embedding of adversities during sensitive developmental periods. In both cases, there can be a lag of many years, even decades, before early adverse

experiences are expressed in the form of disease. From both basic research and policy perspectives, confronting the origins of disparities in physical and mental health early in life may produce greater effects than attempting to modify health-related behaviors or improve access to health care in adulthood.

Quantum physics in neuroscience and psychology: A neurophysical model of mind-brain interaction

Schwartz, J. M., Stapp, H. P., & Beauregard, M. (2005). Quantum physics in neuroscience and psychology: A neurophysical model of mind-brain interaction. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 360(1458), 1309–1327. doi:10.1098/rstb.2004.1598

Abstract

Neuropsychological research on the neural basis of behavior generally posits that brain mechanisms will ultimately suffice to explain all psychologically described phenomena. This assumption stems from the idea that the brain is made up entirely of material particles and fields, and that all causal mechanisms relevant to neuroscience can therefore be formulated solely in terms of properties of these elements. Thus, terms having intrinsic mentalistic and/or experiential content (e.g., “feeling,” “knowing,” and “effort”) are not included as primary causal factors. This theoretical restriction is motivated primarily by ideas about the natural world that have been known to be fundamentally incorrect for more than three quarters of a century. Contemporary basic physical theory differs profoundly from classic physics on the important matter of how the consciousness of human agents enters into the structure of empirical phenomena. The new principles contradict the older idea that local mechanical processes alone can account for the structure of all observed empirical data. Contemporary physical theory brings directly and irreducibly into the overall causal structure certain psychologically described choices made by human agents about how they will act. This key development in basic physical theory is applicable to neuroscience, and it provides neuroscientists and psychologists with an alternative conceptual framework for describing neural processes. Indeed, owing to certain structural features of ion channels critical to synaptic function, contemporary physical theory must in principle be used when analyzing human brain dynamics. The new framework, unlike its classic-physics-based predecessor, is erected directly upon, and is compatible with, the prevailing principles of physics. It is able to represent more adequately than classic concepts the neuroplastic mechanisms relevant to the growing number of empirical studies of the capacity of directed attention and mental effort to systematically alter brain function.

Transduction of the geomagnetic field as evidenced from alpha-band activity in the human brain

Wang, C. X., Hilburn, I. A., Wu, D. A., Mizuhara, Y., Cousté, C. P., Abrahams, J. N., ... Kirschvink, J. L. (2019). Transduction of the geomagnetic field as evidenced from alpha-band activity in the human brain. *eNeuro*, 6(2), 4–19. doi:10.1523/ENEURO.0483-18.2019

Abstract

Magnetoreception, the perception of the geomagnetic field, is a sensory modality well established across all major groups of vertebrates and some invertebrates, but its presence in humans has been tested rarely, yielding inconclusive results. We report here a strong, specific human brain response to ecologically relevant rotations of Earth-strength magnetic fields. Following geomagnetic stimulation, a drop in amplitude of electroencephalography (EEG) alpha-oscillations (8–13 Hz) occurred in a repeatable manner. Termed alpha-event-related desynchronization (alpha-ERD), such a response has been associated previously with sensory and cognitive processing of external stimuli including vision, auditory, and somatosensory cues. Alpha-ERD in response to the geomagnetic field was triggered only by horizontal rotations when the static vertical magnetic field was directed downward, as it is in the Northern Hemisphere; no brain responses were elicited by the same horizontal rotations when the static vertical component was directed upward. This implicates a biological response tuned to the ecology of the local human population,

rather than a generic physical effect. Biophysical tests showed that the neural response was sensitive to static components of the magnetic field. This rules out all forms of electrical induction (including artifacts from the electrodes) that are determined solely on dynamic components of the field. The neural response was also sensitive to the polarity of the magnetic field. This rules out free-radical “quantum compass” mechanisms like the cryptochrome hypothesis, which can detect only axial alignment. Ferromagnetism remains a viable biophysical mechanism for sensory transduction and provides a basis to start the behavioral exploration of human magnetoreception.

Quantum modeling of the mental state: The concept of a cyclic mental workspace

Meijer, D. K., & Korf, J. (2013). Quantum modeling of the mental state: The concept of a cyclic mental workspace. *Syntropy Journal*, 1, 1–41.

Abstract

Taking into account the constituting elements of the human brain, such as neuronal networks, individual neurons, trans-membrane ion-fluxes, and energy producing cellular metabolism as well as other molecules that promote neural activity, there is clear consensus that the present knowledge of the brain, collectively, is insufficient to explain higher mental processes such as (self)consciousness, qualia, intuition, meditative states, transpersonal experiences as well as functional binding between distant parts of the brain. We argue that super-causal mechanisms are required to optimally integrate the above-mentioned building blocks of brain function, also enabling the brain to amplify minimal perturbations for proper anticipation and action. We propose that such a super-causal structure may function as an interface between molecular transitions and the particular higher mental functions. As attractive bridging principles, the isoenergetic brain model and the physical-mathematical hypotheses denoted as quantum brain theories are treated. It is acknowledged that elementary quantum processes are likely to be essential for higher brain functions, as well as behavior and cognitive processing, since our central nervous system forms an integral part of a dynamic universe as a nonlocal information processing modality. In addition we conclude that quantum concepts may, at least, serve as a useful probability model and/or metaphor for human cognition. Yet versatile brain function may require complementary information processing mechanisms at the classical and quantum (macro- and micro-) levels, both enabling bottom-up and top-down information processing. Concerted action of isoenergetic and quantum physics-based cognitive mechanisms in the human brain requires a nested organization of fine-tuned neural micro-sites that enable decoherence-protected information transfer. For a rapid and causally effective flux of information, as well as a continuous updating of meaningful information, a super-causal field model is required. This neural structure is conceived by us as a “bi-cyclic” mental workspace, housing interacting and entangled wave/particle modalities that are integral parts of an atemporal and universal knowledge domain.

Quantum cognition: A new theoretical approach to psychology

Bruza, P. D., Wang, Z., & Busemeyer, J. R. (2015). Quantum cognition: A new theoretical approach to psychology. *Trends in Cognitive Sciences*, 19(7), 383–393. doi:10.1016/j.tics.2015.05.001

Abstract

What type of probability theory best describes the way humans make judgments under uncertainty and decisions under conflict? Although rational models of cognition have become prominent and have achieved much success, they adhere to the laws of classical probability theory despite the fact that human reasoning does not always conform to these laws. For this reason we have seen the recent emergence of models based on an alternative probabilistic framework drawn from quantum theory. These quantum models show promise in addressing cognitive phenomena that have proven recalcitrant to modeling by means of classical probability theory. This review compares and contrasts probabilistic models based on Bayesian or classical versus quantum principles, and highlights the advantages and disadvantages of each approach.

Neuroscience and the soul: Competing explanations for the human experience

Preston, J. L., Ritter, R. S., & Hepler, J. (2013). Neuroscience and the soul: Competing explanations for the human experience. *Cognition*, *127*(1), 31–37. doi:10.1016/j.cognition.2012.12.003

Abstract

The development of fMRI techniques has generated a boom of neuroscience research across the psychological sciences, and revealed neural correlates for many psychological phenomena seen as central to the human experience (e.g., morality, agency). Meanwhile, the rise of neuroscience has reignited old debates over mind-body dualism and the soul. While some scientists use neuroscience to bolster a material account of consciousness, others point to unexplained neural phenomena to defend dualism and a spiritual perspective on the mind. In two experiments, we examine how exposure to neuroscience research impacts belief in the soul. We find that belief in soul decreases when neuroscience provides strong mechanistic explanations for mind. But when explanatory gaps in neuroscience research are emphasized, belief in soul is enhanced, suggesting that physical and metaphysical explanations may be used reflexively as alternative theories for mind. Implications for the future of belief in soul and neuroscience research are discussed.

Visualizing out-of-body experience in the brain

De Ridder, D., Van Laere, K., Dupont, P., Menovsky, T., & Van de Heyning, P. (2007). Visualizing out-of-body experience in the brain. *New England Journal of Medicine*, *357*(18), 1829–1833. doi:10.1056/NEJMoa070010

Abstract

An out-of-body experience was repeatedly elicited during stimulation of the posterior part of the superior temporal gyrus on the right side in a patient in whom electrodes had been implanted to suppress tinnitus. Positron-emission tomographic scanning showed brain activation at the temporoparietal junction—more specifically, at the angular-supramarginal gyrus junction and the superior temporal gyrus-sulcus on the right side. Activation was also noted at the right precuneus and posterior thalamus, extending into the superior vermis. We suggest that activation of these regions is the neural correlate of the disembodiment that is part of the out-of-body experience.

Leaving body and life behind: Out-of-body and near-death experience

Blanke, O., Faivre, N., & Dieguez, S. (2016). Leaving body and life behind: Out-of-body and near-death experience. In S. Laureys, O. Gosseries, & G. Tononi (Eds.), *The neurology of consciousness: Cognitive neuroscience and neuropathology* (2nd ed., pp. 323–347). Boston, MA: Elsevier/Academic Press. doi:10.1016/B978-0-12-800948-2.00020-0

Abstract

Out-of-body experiences (OBEs) and near-death experiences (NDEs) are complex phenomena that have fascinated mankind from time immemorial. OBEs are defined as experiences in which a person seems to be awake and sees his body and the world from a disembodied location outside his physical body. Recent neurological and neuroscientific research suggests that OBEs are the result of disturbed bodily multisensory integration, primarily in right temporo-parietal cortex. NDEs are more loosely defined, and refer to a set of subjective phenomena, often including an OBE, that are triggered by a life-threatening situation. Although a number of different theories have been proposed about the putative brain processes underlying NDEs, neurologists and cognitive neuroscientists have, so far, paid little attention to these phenomena, although several experimental investigations based on principles from cognitive neuroscience are possible. This might be understandable but is unfortunate, because the neuroscientific study of NDEs could provide insights into the functional and neural mechanisms of beliefs, concepts, personality, spirituality, magical thinking, and the self. Based on previous medical and psychological research in cardiac arrest patients with NDEs, we sketch a neurological framework for the study of the so-called NDEs.

Optimism is associated with exceptional longevity in 2 epidemiologic cohorts of men and women

Lee, L. O., James, P., Zevon, E. S., Kim, E. S., Trudel-Fitzgerald, C., Spiro, A., ... Kubzansky, L. D. (2019). Optimism is associated with exceptional longevity in 2 epidemiologic cohorts of men and women. *Proceedings of the National Academy of Sciences*, 116(37), 18357–18362. doi:10.1073/pnas.1900712116

Abstract

Most research on exceptional longevity has investigated biomedical factors associated with survival, but recent work suggests nonbiological factors are also important. Thus, we tested whether higher optimism was associated with longer life span and greater likelihood of exceptional longevity. Data are from two cohorts, women from the Nurses' Health Study (NHS) and men from the Veterans Affairs Normative Aging Study (NAS), with follow-up of 10 years (2004 to 2014) and 30 years (1986 to 2016), respectively. Optimism was assessed using the Life Orientation Test–Revised in NHS and the Revised Optimism-Pessimism Scale from the Minnesota Multiphasic Personality Inventory–2 in NAS. Exceptional longevity was defined as survival to age 85 or older. Primary analyses used accelerated failure time models to assess differences in life span associated with optimism; models were adjusted for demographic confounders and health conditions, and the role of health behaviors was subsequently considered. Further analyses used logistic regression to evaluate the likelihood of exceptional longevity. In both sexes, we found a dose-dependent association of higher optimism levels at baseline with increased longevity (P trend < 0.01). For example, adjusting for demographics and health conditions, women in the highest versus lowest optimism quartile had 14.9% (95% confidence interval, 11.9 to 18.0) longer life span. Findings were similar in men. Participants with highest versus lowest optimism levels had 1.5 (women) and 1.7 (men) greater odds of surviving to age 85; these relationships were maintained after adjusting for health behaviors. Given work indicating optimism is modifiable, these findings suggest optimism may provide a valuable target to test for strategies to promote longevity.

Early-career setback and future career impact

Wang, Y., Jones, B. F., & Wang, D. (2019). Early-career setback and future career impact. *Nature Communications*, 10(1), 4331. doi:10.1038/s41467-019-12189-3

Abstract

Setbacks are an integral part of a scientific career, yet little is known about their long-term effects. Here we examine junior scientists applying for National Institutes of Health R01 grants. By focusing on proposals that fell just below and just above the funding threshold, we compare near-miss with narrow-win applicants, and find that an early-career setback has powerful, opposing effects. On the one hand, it significantly increases attrition, predicting more than a 10% chance of disappearing permanently from the NIH system. Yet, despite an early setback, individuals with near misses systematically outperform those with narrow wins in the longer run. Moreover, this performance advantage seems to go beyond a screening mechanism, suggesting early-career setback appears to cause a performance improvement among those who persevere. Overall, these findings are consistent with the concept that “what doesn't kill me makes me stronger,” which may have broad implications for identifying, training, and nurturing junior scientists.

Does emotion cause behavior (apart from making people do stupid, destructive things)?

Baumeister, R. F., DeWall, C. N., Vohs, K. D., & Alquist, J. L. (2010). Does emotion cause behavior (apart from making people do stupid, destructive things)? In C. R. Agnew, D. E. Carlston, W. G. Graziano, & J. R. Kelly (Eds.), *Then a miracle occurs: Focusing on behavior in social psychological theory and research* (pp. 119–136). New York, NY: Oxford University Press.

Abstract

This chapter focuses on the relationship between emotion and behavior. It will present two main theories about that relationship. They are not equals. One is widely accepted, is simple, and enjoys the benefits of tradition and

parsimony. The other has none of those advantages. By rights, therefore, the one deserves to be given the benefit of the doubt, and the second theory should only be considered seriously if the first one is found to be seriously inadequate to account for the evidence. But the authors propose that it has finally been revealed by the gradual accumulation of evidence to be seriously inadequate if not downright wrong. Hence a new theory is needed—preferably one that can fit the observed facts, especially including the ones that have gradually discredited the standard theory. In a nutshell, the two theories are as follows. The first holds that emotion directly causes behavior. Actions can be explained by citing the emotional state that gave rise to them: Someone did something “because he was angry” or “because she was happy” or “because he was afraid” or “because she was sad.” The evolved purpose and function of emotions was to cause people to act in particular ways. The second theory, in contrast, holds that conscious emotion tends to come after behavior and operates as a kind of inner feedback system that prompts the person to reflect on the act and its consequences, and possibly learn lessons that could be useful on future occasions. People may choose their actions based on the emotional outcomes they anticipate. The influence of emotion on behavior is thus indirect. The chapter is organized as follows. Before the authors lay out the two theories, it is necessary to grapple with what is meant by emotion. This is more than a definitional conundrum or chore because there are at least two major classes of phenomena that are understood as emotion, and they are quite different in feeling, function, process, and relation to behavior. After this, the authors outline the first theory, along with the arguments against it, then the second theory and some of the relevant evidence.

Dynamic spread of happiness in a large social network: Longitudinal analysis over 20 years in the Framingham Heart Study

Fowler, J. H., & Christakis, N. A. (2008). Dynamic spread of happiness in a large social network: Longitudinal analysis over 20 years in the Framingham Heart Study. *British Medical Journal*, 337, a2338. doi:10.1136/bmj.a2338

Objectives: To evaluate whether happiness can spread from person to person and whether niches of happiness form within social networks.

Design: Longitudinal social network analysis.

Setting: Framingham Heart Study social network.

Participants: 4,739 individuals followed from 1983 to 2003.

Main Outcome Measures: Happiness measured with validated four-item scale; broad array of attributes of social networks and diverse social ties.

Results: Clusters of happy and unhappy people are visible in the network, and the relationship between people’s happiness extends up to three degrees of separation (for example, to the friends of one’s friends’ friends). People who are surrounded by many happy people and those who are central in the network are more likely to become happy in the future. Longitudinal statistical models suggest that clusters of happiness result from the spread of happiness and not just a tendency for people to associate with similar individuals. A friend who lives within a mile (about 1.6 km) and who becomes happy increases the probability that a person is happy by 25% (95% confidence interval 1% to 57%). Similar effects are seen in coresident spouses (8%, 0.2% to 16%), siblings who live within a mile (14%, 1% to 28%), and next-door neighbors (34%, 7% to 70%). Effects are not seen between coworkers. The effect decays with time and with geographical separation.

Conclusions: People’s happiness depends on the happiness of others with whom they are connected. This provides further justification for seeing happiness, like health, as a collective phenomenon.

Compassion: An evolutionary analysis and empirical review

Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351–374. doi:10.1037/a0018807

Abstract

What is compassion? And how did it evolve? In this review, we integrate three evolutionary arguments that converge on the hypothesis that compassion evolved as a distinct affective experience whose primary function is to facilitate cooperation and protection of the weak and those who suffer. Our empirical review reveals compassion to have distinct appraisal processes attuned to undeserved suffering; distinct signaling behavior related to caregiving patterns of touch, posture, and vocalization; and a phenomenological experience and physiological response that orients the individual to social approach. This response profile of compassion differs from those of distress, sadness, and love, suggesting that compassion is indeed a distinct emotion. We conclude by considering how compassion shapes moral judgment and action, how it varies across different cultures, and how it may engage specific patterns of neural activation, as well as emerging directions of research.

Self-actualizing people in the 21st century: Integration with contemporary theory and research on personality and well-being

Kaufman, S. B. (2018). Self-actualizing people in the 21st century: Integration with contemporary theory and research on personality and well-being. *Journal of Humanistic Psychology*. doi:10.1177/0022167818809187

Abstract

More than 70 years ago, Maslow put forward an integrated theory of human motivation that still captures the public imagination. Still, integration with modern theory and research remains elusive. The current study aims to fill this gap in the psychological literature, linking Maslow's theory to contemporary theory and research on personality and well-being. Toward this aim, the new 30-item Characteristics of Self-Actualization Scale (CSAS) was developed. Scale validation showed that 10 characteristics of self-actualizing people as proposed by Maslow load on a general factor of self-actualization and demonstrate external validity. Those reporting more characteristics of self-actualization were more motivated by growth, exploration, and love of humanity than the fulfillment of deficiencies in basic needs. The characteristics of self-actualization were also associated with greater well-being across a number of indicators of well-being, including greater life satisfaction, self-acceptance, positive relations, environmental mastery, personal growth, autonomy, purpose in life, and self-transcendent experiences. Self-actualization scores also predicted work-related outcomes and creativity across multiple domains of achievement. The results provide support for Maslow's proposed characteristics of self-actualization and basic motivational framework, bringing the concept of self-actualization so frequently discussed by the founding humanistic psychologists firmly into the 21st century.

Absorption and spiritual experience: A review of evidence and potential mechanisms

Lifshitz, M., van Elk, M., & Luhrmann, T. M. (2019). Absorption and spiritual experience: A review of evidence and potential mechanisms. *Consciousness and Cognition*, 73, 102760. doi:10.1016/j.concog.2019.05.008

Abstract

Some people seem to have a “talent” for spiritual experience: they readily sense the presence of supernatural beings, receive special messages from God, and report intense feelings of self-transcendence, awe, and wonder. Here we review converging strands of evidence to argue that the trait of “absorption” captures a general proclivity for having spiritual experiences. Participants scoring highly on the Tellegen Absorption Scale report vivid experiences of hearing God's voice during prayer, intense mystical experiences in response to psychedelics or placebo brain stimulation, and strong feelings of presence and transcendence when confronted with natural beauty, virtual reality, or music. Several mechanisms may help to explain the relationship between absorption and spiritual experience.

We suggest that absorption captures an experiential mindset that intensifies inner and outer sensory experience in ways that reflect both prior expectation and novel sensory engagement. It seems to enable that which must be imagined to feel more real.

The varieties of self-transcendent experience

Yaden, D. B., Haidt, J., Hood, R. W., Jr., Vago, D. R., & Newberg, A. B. (2017). The varieties of self-transcendent experience. *Review of General Psychology, 21*(2), 143–160. doi:10.1037/gpr0000102

Abstract

Various forms of self-loss have been described as aspects of mental illness (e.g., depersonalization disorder), but might self-loss also be related to mental health? In this integrative review and proposed organizational framework, we focus on self-transcendent experiences (STEs)—transient mental states marked by decreased self-salience and increased feelings of connectedness. We first identify common psychological constructs that contain a self-transcendent aspect, including mindfulness, flow, peak experiences, mystical-type experiences, and certain positive emotions (e.g., love, awe). We then propose psychological and neurobiological mechanisms that may mediate the effects of STEs based on a review of the extant literature from social psychology, clinical psychology, and affective neuroscience. We conclude with future directions for further empirical research on these experiences.

The future of technology in positive psychology: Methodological advances in the science of well-being

Yaden, D. B., Eichstaedt, J. C., & Medaglia, J. D. (2018). The future of technology in positive psychology: Methodological advances in the science of well-being. *Frontiers in Psychology, 9*, 962. doi:10.3389/fpsyg.2018.00962

Abstract

Advances in biotechnology and information technology are poised to transform well-being research. This article reviews the technologies that we predict will have the most impact on both measurement and intervention in the field of positive psychology over the next decade. These technologies include: psychopharmacology, noninvasive brain stimulation, virtual reality environments, and big-data methods for large-scale multivariate analysis. Some particularly relevant potential costs and benefits to individual and collective well-being, as well as ethical considerations, are considered for each technology. As these technologies may substantially enhance the capacity of psychologists to intervene on and measure well-being, now is the time to discuss the potential promise and pitfalls of these technologies.

The resurgence of awe in psychology: Promise, hope, and perils

Schneider, K. (2017). The resurgence of awe in psychology: Promise, hope, and perils. *Humanistic Psychologist, 45*(2), 103–108. doi:10.1037/hum0000060

Abstract

The sense of awe, also defined as a perception of vastness that cannot be assimilated but can be accommodated; or as the experience of humility and wonder—adventure—toward living, has become a “hot” topic in psychology. This article considers the basis for this trend, some promising avenues of research, and several challenges to the mainstream—quantitative—perspective on awe. It is concluded that while mainstream perspectives on awe appear to have beneficial effects on an impressive array of human behaviors, the relative neglect of historically rooted, in-depth, qualitative approaches to awe pose notable perils. Among these perils are the comparative reductionism of the findings on awe to overt and measurable reactions; the neglect of longer term, life-changing experiences of awe; and the neglect of the broader social implications of awe-based transformation.

Awe: “More than a feeling”

Chirico, A., & Gaggioli, A. (2018). Awe: “More than a feeling.” *Humanistic Psychologist*, 46(3), 274–280. doi:10.1037/hum0000098

Abstract

In this article, the authors elaborate on two ideas advanced in Schneider’s (2017) innovative article on the resurgence of awe in psychology. Taking a cue from his claim to recover a “slow simmer form” of awe (i.e., deeper, destabilizing, challenging, and ambiguous) using mixed-methods, the authors highlight the need to reframe the concept of awe as closer to an experience than to an emotion. This implies focusing not only on a mixed-methodology to study awe but also on a new way of inducing it. Specifically, if awe is considered as an experience, an experiential approach would be required to induce it. The authors provide examples of recent studies that relied on Virtual Reality (VR) as an effective experiential approach to elicit the “slow simmer form” of awe in the lab. A controlled induction of awe through VR can lead to more intense awe, thus drawing near the desired “slow simmer form.” Schneider’s claim can provide the theoretical underpinning to support this new conceptualization of awe as an experience as well as its experimental investigation.

Transcendence and sublime experience in nature: Awe and inspiring energy

Bethelmy, L. C., & Corraliza, J. A. (2019). Transcendence and sublime experience in nature: Awe and inspiring energy. *Frontiers in Psychology*, 10. doi:10.3389/fpsyg.2019.00509

Abstract

The wilderness is one of the most widely recognized sources of transcendent emotion. Various recent studies have demonstrated nature’s power to induce intense emotions. The study at hand will generate conceptual and operational definitions of sublime emotion toward nature. Taking into consideration the recent research on feelings of awe, an instrument is devised to measure sublime emotion toward nature. The proposed scale’s reliability and validity is tested in a sample of 280 participants from the general population of Madrid. Results show that sublime emotion was defined by two conceptual components: awe, and inspiring energy, both obtained using the computer program FACTOR. After reliability and validity analysis, the Sublime Emotion toward Nature (SEN) scale included 18 items, distributed into awe (6 items, $\alpha = 0.881$) and inspiring energy (12 items, $\alpha = 0.933$). Awe was defined by feelings of fear, threat, vulnerability, fragility, and respect for nature, which is perceived as vast, powerful, and mysterious. Inspiring energy was defined by feelings of vitality, joy, energy, oneness, freedom, eternity, and harmony with the universe. The SEN is an adequate instrument to measure transcendent emotions provoked by direct wilderness exposure or memory thereof.

The effects of meditation on grey matter atrophy and neurodegeneration: A systematic review

Last, N., Tufts, E., & Auger, L. E. (2017). The effects of meditation on grey matter atrophy and neurodegeneration: A systematic review. *Journal of Alzheimer’s Disease*, 56(1), 275–86. doi:10.3233/JAD-160899

Abstract

The present systematic review is based on the premise that a variety of neurodegenerative diseases are accompanied by grey matter atrophy in the brain and meditation may impact this. Given that age is a major risk factor for many of these progressive and neurodegenerative diseases and that the percentage of the population over the age of 65 is quickly increasing, there is an obvious need for prompt treatment and prevention advances in research. As there is currently no cure for Alzheimer’s disease and other neurodegenerative diseases, many are seeking non-pharmacological treatment options in attempts to offset the disease-related cognitive and functional declines. On the basis of a growing body of research suggesting that meditation is effective in increasing grey matter volume in healthy participants, this paper systematically reviewed the literature regarding the effects of meditation on restoring grey matter volume in healthy individuals and those affected by neurodegeneration. This review searched

PubMed, CINAHL, and APA PsycNET to identify original studies that included MRI imaging to measure grey matter volume in meditators and post-mindfulness-based-intervention participants compared to controls. Thirteen studies were considered eligible for review and involved a wide variety of meditation techniques and included participants with and without cognitive impairment. All studies reported significant increases in grey matter volume in the meditators/intervention group, albeit in assorted regions of the brain. Limited research exists on the mechanisms through which meditation affects disease-related neurodegeneration, but preliminary evidence suggests that it may offset grey matter atrophy.

8-week Mindfulness Based Stress Reduction induces brain changes similar to traditional long-term meditation practice—a systematic review

Gotink, R. A., Meijboom, R., Vernooij, M. W., Smits, M., & Hunink, M. M. (2016). 8-week Mindfulness Based Stress Reduction induces brain changes similar to traditional long-term meditation practice—a systematic review. *Brain and Cognition, 108*, 32–41. doi:10.1016/j.bandc.2016.07.001

Abstract

The objective of the current study was to systematically review the evidence of the effect of secular mindfulness techniques on function and structure of the brain. Based on areas known from traditional meditation neuroimaging results, we aimed to explore a neuronal explanation of the stress-reducing effects of the 8-week Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT) program.

Methods: We assessed the effect of MBSR and MBCT ($N = 11$, all MBSR), components of the programs ($N = 15$), and dispositional mindfulness ($N = 4$) on brain function and/or structure as assessed by functional magnetic resonance imaging (fMRI). Twenty-one fMRI studies and seven MRI studies were included (two studies performed both).

Results: The prefrontal cortex, the cingulate cortex, the insula, and the hippocampus showed increased activity, connectivity, and volume in stressed, anxious, and healthy participants. Additionally, the amygdala showed decreased functional activity, improved functional connectivity with the prefrontal cortex, and earlier deactivation after exposure to emotional stimuli.

Conclusion: Demonstrable functional and structural changes in the prefrontal cortex, cingulate cortex, insula, and hippocampus are similar to changes described in studies on traditional meditation practice. In addition, MBSR led to changes in the amygdala consistent with improved emotion regulation. These findings indicate that MBSR-induced emotional and behavioral changes are related to functional and structural changes in the brain.

The meditative mind: A comprehensive meta-analysis of MRI studies

Boccia, M., Piccardi, L., & Guariglia, P. (2015). The meditative mind: A comprehensive meta-analysis of MRI studies. *BioMed Research International, 2015*, 419808. doi:10.1155/2015/419808

Abstract

Over the past decade mind and body practices, such as yoga and meditation, have raised interest in different scientific fields; in particular, the physiological mechanisms underlying the beneficial effects observed in meditators have been investigated. Neuroimaging research has studied the effects of meditation on brain structure and function and findings have helped clarify the biological underpinnings of the positive effects of meditation practice and the possible integration of this technique in standard therapy. The large amount of data collected thus far allows drawing some conclusions about the neural effects of meditation practice. In the present study, we used activation likelihood estimation (ALE) analysis to make a coordinate-based meta-analysis of neuroimaging data on the effects of meditation on brain structure and function. Results indicate that meditation leads to activation in brain areas involved in processing self-relevant information, self-regulation, focused problem-solving, adaptive behavior, and interoception. Results also show that meditation practice induces functional and structural brain modifications in expert

meditators, especially in areas involved in self-referential processes such as self-awareness and self-regulation. These results demonstrate that a biological substrate underlies the positive pervasive effect of meditation practice and suggest that meditation techniques could be adopted in clinical populations and to prevent disease.

Is meditation associated with altered brain structure? A systematic review and meta-analysis of morphometric neuroimaging in meditation practitioners

Fox, K. C., Nijeboer, S., Dixon, M. L., Floman, J. L., Ellamil, M., Rumak, S. P., Sedlmeier, P., & Christoff, K. (2014). Is meditation associated with altered brain structure? A systematic review and meta-analysis of morphometric neuroimaging in meditation practitioners. *Neuroscience and Biobehavioral Reviews*, *43*, 48–73. doi:10.1016/j.neubiorev.2014.03.016

Abstract

Numerous studies have begun to address how the brains grey and white matter may be shaped by meditation. This research is yet to be integrated, however, and two fundamental questions remain: Is meditation associated with altered brain structure? If so, what is the magnitude of these differences? To address these questions, we reviewed and meta-analyzed 123 brain morphology differences from 21 neuroimaging studies examining ~300 meditation practitioners. Anatomical likelihood estimation (ALE) meta-analysis found eight brain regions consistently altered in meditators, including areas key to meta-awareness (frontopolar cortex/BA 10), exteroceptive and interoceptive body awareness (sensory cortices and insula), memory consolidation and reconsolidation (hippocampus), self and emotion regulation (anterior and mid cingulate; orbitofrontal cortex), and intra- and interhemispheric communication (superior longitudinal fasciculus; corpus callosum). Effect size meta-analysis (calculating 132 effect sizes from 16 studies) suggests a global “medium” effect size (Cohen’s $d = 0.46$; $r = .19$). Publication bias and methodological limitations are strong concerns, however. Further research using rigorous methods is required to definitively link meditation practice to altered brain morphology.

Use of yoga, meditation, and chiropractors among U.S. adults aged 18 and older

Clarke, T. C., Barnes, P. M., Black, L. I., Stussman, B. J., & Nahin, R. L. (2018). Use of yoga, meditation, and chiropractors among U.S. adults aged 18 and older. *NCHS Data Brief*, *325*, 1–8. Hyattsville, MD: National Center for Health Statistics.

Abstract

Complementary health is the use of holistic or unconventional medicine with mainstream Western medicine for health and wellness. Past research has identified yoga, meditation, and seeing a chiropractor as some of the most commonly used approaches. This report examines changes over time in the percentage of adults who used yoga, meditation, and chiropractors in the past 12 months, as well as variation by sex, age, and race and Hispanic origin.

Alterations in resting-state functional connectivity link mindfulness meditation with reduced interleukin-6: A randomized controlled trial

Creswell, J. D., Taren, A. A., Lindsay, E. K., Greco, C. M., Gianaros, P. J., Fairgrieve, A., ... Ferris, J. L. (2016). Alterations in resting-state functional connectivity link mindfulness meditation with reduced interleukin-6: A randomized controlled trial. *Biological Psychiatry*, *80*(1), 53–61. doi:10.1016/j.biopsych.2016.01.008

Background: Mindfulness meditation training interventions have been shown to improve markers of health, but the underlying neurobiological mechanisms are not known. Building on initial cross-sectional research showing that mindfulness meditation may increase default mode network (DMN) resting-state functional connectivity (rsFC) with regions important in top-down executive control (dorsolateral prefrontal cortex [dlPFC]), here we test

whether mindfulness meditation training increases DMN-dlPFC rsFC and whether these rsFC alterations prospectively explain improvements in interleukin (IL)-6 in a randomized controlled trial.

Methods: Stressed job-seeking unemployed community adults ($N = 35$) were randomized to either a three-day intensive residential mindfulness meditation or relaxation training program. Participants completed a five-minute resting-state scan before and after the intervention program. Participants also provided blood samples at preintervention and at four-month follow-up, which were assayed for circulating IL-6, a biomarker of systemic inflammation.

Results: We tested for alterations in DMN rsFC using a posterior cingulate cortex seed-based analysis and found that mindfulness meditation training, and not relaxation training, increased posterior cingulate cortex rsFC with left dlPFC ($p < .05$, corrected). These pretraining to posttraining alterations in posterior cingulate cortex-dlPFC rsFC statistically mediated mindfulness meditation training improvements in IL-6 at four-month follow-up. Specifically, these alterations in rsFC statistically explained 30% of the overall mindfulness meditation training effects on IL-6 at follow-up.

Conclusions: These findings provide the first evidence that mindfulness meditation training functionally couples the DMN with a region known to be important in top-down executive control at rest (left dlPFC), which, in turn, is associated with improvements in a marker of inflammatory disease risk.

The unique brain anatomy of meditation practitioners: Alterations in cortical gyrification

Luders, E., Kurth, F., Mayer, E. A., Toga, A. W., Narr, K. L., & Gaser, C. (2012). The unique brain anatomy of meditation practitioners: Alterations in cortical gyrification. *Frontiers in Human Neuroscience*, 6, 34. doi:10.3389/fnhum.2012.00034

Abstract

Several cortical regions are reported to vary in meditation practitioners. However, prior analyses have focused primarily on examining gray matter or cortical thickness. Thus, additional effects with respect to other cortical features might have remained undetected. Gyrification (the pattern and degree of cortical folding) is an important cerebral characteristic related to the geometry of the brain's surface. Thus, exploring cortical gyrification in long-term meditators may provide additional clues with respect to the underlying anatomical correlates of meditation. This study examined cortical gyrification in a large sample ($N = 100$) of meditators and controls, carefully matched for sex and age. Cortical gyrification was established by calculating mean curvature across thousands of vertices on individual cortical surface models. Pronounced group differences indicating larger gyrification in meditators were evident within the left precentral gyrus, right fusiform gyrus, right cuneus, as well as left and right anterior dorsal insula (the latter representing the global significance maximum). Positive correlations between gyrification and the number of meditation years were similarly pronounced in the right anterior dorsal insula. Although the exact functional implications of larger cortical gyrification remain to be established, these findings suggest the insula to be a key structure involved in aspects of meditation. For example, variations in insular complexity could affect the regulation of well-known distractions in the process of meditation, such as daydreaming, mind-wandering, and projections into past or future. Moreover, given that meditators are masters in introspection, awareness, and emotional control, increased insular gyrification may reflect an integration of autonomic, affective, and cognitive processes. Due to the cross-sectional nature of this study, further research is necessary to determine the relative contribution of nature and nurture to links between cortical gyrification and meditation.

Meditation experience is associated with increased cortical thickness

Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., ... Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, *16*(17), 1893–1897. doi:10.1097/01.wnr.0000186598.66243.19

Abstract

Previous research indicates that long-term meditation practice is associated with altered resting electroencephalogram patterns, suggestive of long-lasting changes in brain activity. We hypothesized that meditation practice might also be associated with changes in the brain's physical structure. Magnetic resonance imaging was used to assess cortical thickness in 20 participants with extensive Insight meditation experience, which involves focused attention to internal experiences. Brain regions associated with attention, interoception, and sensory processing were thicker in meditation participants than in matched controls, including the prefrontal cortex and right anterior insula. Between-group differences in prefrontal cortical thickness were most pronounced in older participants, suggesting that meditation might offset age-related cortical thinning. Finally, the thickness of two regions correlated with meditation experience. These data provide the first structural evidence for experience-dependent cortical plasticity associated with meditation practice.

Increased default mode network connectivity associated with meditation

Jang, J. H., Jung, W. H., Kang, D. H., Byun, M. S., Kwon, S. J., Choi, C. H., & Kwon, J. S. (2011). Increased default mode network connectivity associated with meditation. *Neuroscience Letters*, *487*(3), 358–362. doi:10.1016/j.neulet.2010.10.056

Abstract

Areas associated with the default mode network (DMN) are substantially similar to those associated with meditation practice. However, no studies on DMN connectivity during resting states have been conducted on meditation practitioners. It was hypothesized that meditators would show heightened functional connectivity in areas of cortical midline activity. Thirty-five meditation practitioners and 33 healthy controls without meditation experience were included in this study. All subjects received 4.68-minute resting state functional scanning runs. The posterior cingulate cortex and medial prefrontal cortex were chosen as seed regions for the DMN map. Meditation practitioners demonstrated greater functional connectivity within the DMN in the medial prefrontal cortex area ($xyz = 339-21$) than did controls. These results suggest that the long-term practice of meditation may be associated with functional changes in regions related to internalized attention even when meditation is not being practiced.

Meditation experience is associated with differences in default mode network activity and connectivity

Brewer, J. A., Worhunsky, P. D., Gray, J. R., Tang, Y. Y., Weber, J., & Kober, H. (2011). Meditation experience is associated with differences in default mode network activity and connectivity. *Proceedings of the National Academy of Sciences*, *108*(50), 20254–20259. doi:10.1073/pnas.1112029108

Abstract

Many philosophical and contemplative traditions teach that “living in the moment” increases happiness. However, the default mode of humans appears to be that of mind-wandering, which correlates with unhappiness and with activation in a network of brain areas associated with self-referential processing. We investigated brain activity in experienced meditators and matched meditation-naive controls as they performed several different

meditations (Concentration, Loving-Kindness, Choiceless Awareness). We found that the main nodes of the default mode network (medial prefrontal and posterior cingulate cortices) were relatively deactivated in experienced meditators across all meditation types. Furthermore, functional connectivity analysis revealed stronger coupling in experienced meditators between the posterior cingulate, dorsal anterior cingulate, and dorsolateral prefrontal cortices (regions previously implicated in self-monitoring and cognitive control), both at baseline and during meditation. Our findings demonstrate differences in the default mode network that are consistent with decreased mind-wandering. As such, these provide a unique understanding of possible neural mechanisms of meditation.

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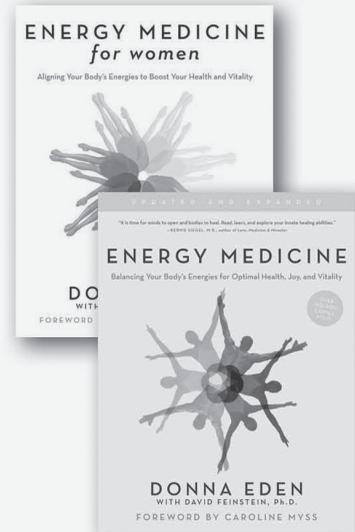
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