

Mental-Physical Health Integration (MPHI) Program Overview

Working with At-Risk Adolescents Who Have Experienced Trauma and Loss



Julia Peters, MSSW, LCSW
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About the Presenter



Julia Peters provides therapy for adolescents, couples and families at the Covenant House Missouri. She graduated from Columbia University with her Masters of Science in Social Work and Business Administration from the Columbia Business School.

Julia has extensive advanced training from the University of Pennsylvania's Center for the Treatment and Study of Anxiety (CTSA) in Prolonged Exposure (PE) and Prolonged Exposure Adolescent (PE-A). She is also certified in training for adoption competency through Center for Adoption Support and Education in Washington, DC. She has advanced training in other evidence-based treatments including Dialectical Behavioral Therapy, Motivational Training and Complicated Grief Therapy. Previous work experience includes serving as a Sexual Assault Response Team (SART) coordinator, Financial Crisis Counselor, Bereavement and Grief Counselor and Psychiatric Rehabilitation Specialist. Her expertise is working with children, adolescents and adults who experience trauma, ambiguous loss and grief, end of life care and individuals with emotional dysregulation.

What is the goal of the Mental Physical Health Integration Program?

- MPHI introduces alternative form of engagement with clients and therapists
- **Short-term**, one and done sessions connecting mental health and physical activity
- Increases body awareness and connection
- Provides clients the opportunity to use physical activities to **improve mood and self-esteem**
- Allows clients an opportunity to **reduce high sitting time**
- Group and individualized approach towards expression, emotional intensity and coping skills
- Utilizes both individual and team approach to reach goals and objectives



This is not a substitute for Evidence-Based Therapy Interventions

MHPI is designed to compliment EBTs and provide an additional opportunity to generalize body awareness and coping skills



**“I have a long history
of therapy and
nothing works.”**



Observed Barriers Towards Other Therapy Interventions

Environment and Programmatic
Restrictions

Client's Right to Self-
Determination

Therapy History

Challenges to traditional therapy

■ ENVIRONMENT

- Short term program
- Several other concurrent programs
- Program stipulations

Challenges to traditional therapy

■ THERAPY

- Collaboration with outside providers
- 2-3 average sessions in 30-day period
- Engagement and rapport building

Challenges to traditional therapy

■ CLIENT

- Crisis intervention
- Seeking housing assistance
- Clients have had several previous experiences with therapy
- Extended family involvement

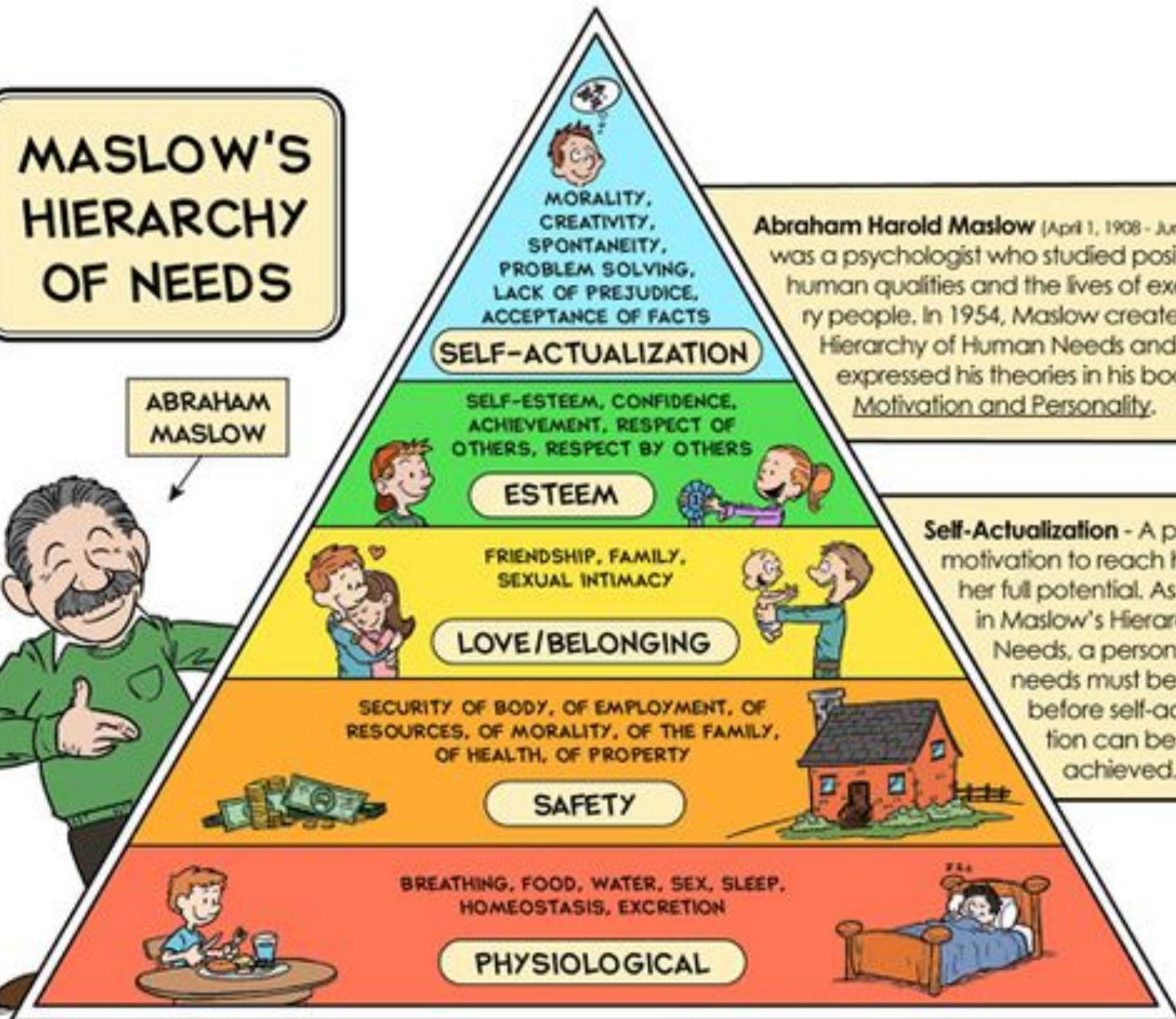


**Here is what we
know**



MASLOW'S HIERARCHY OF NEEDS

ABRAHAM MASLOW

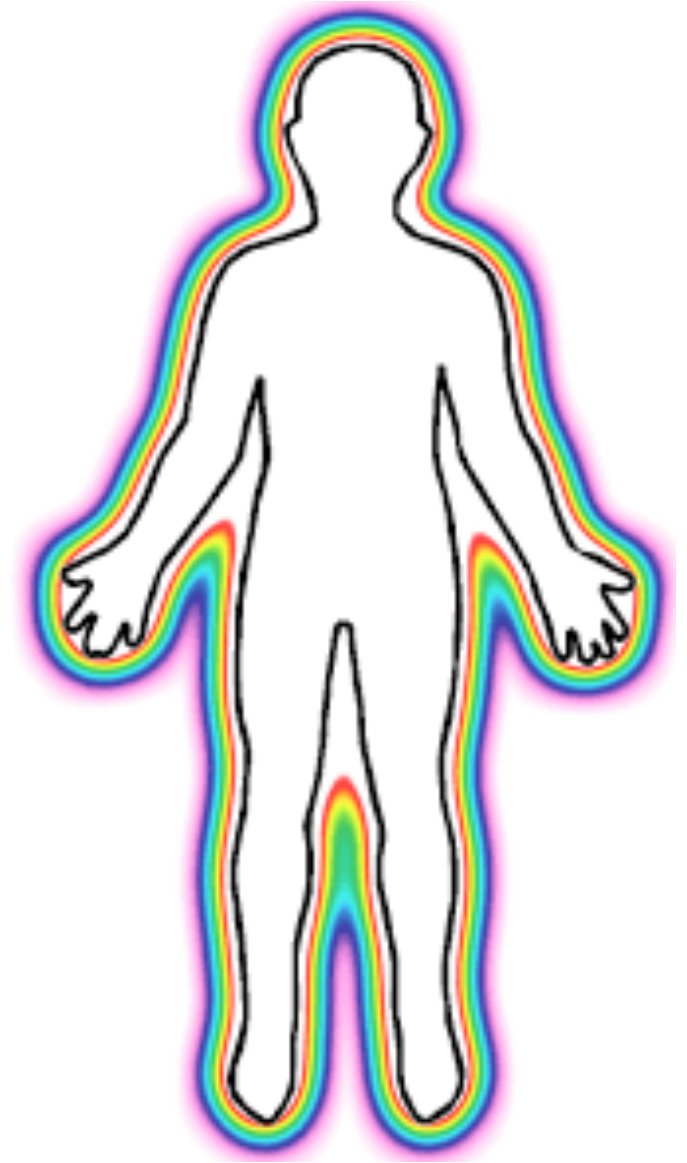


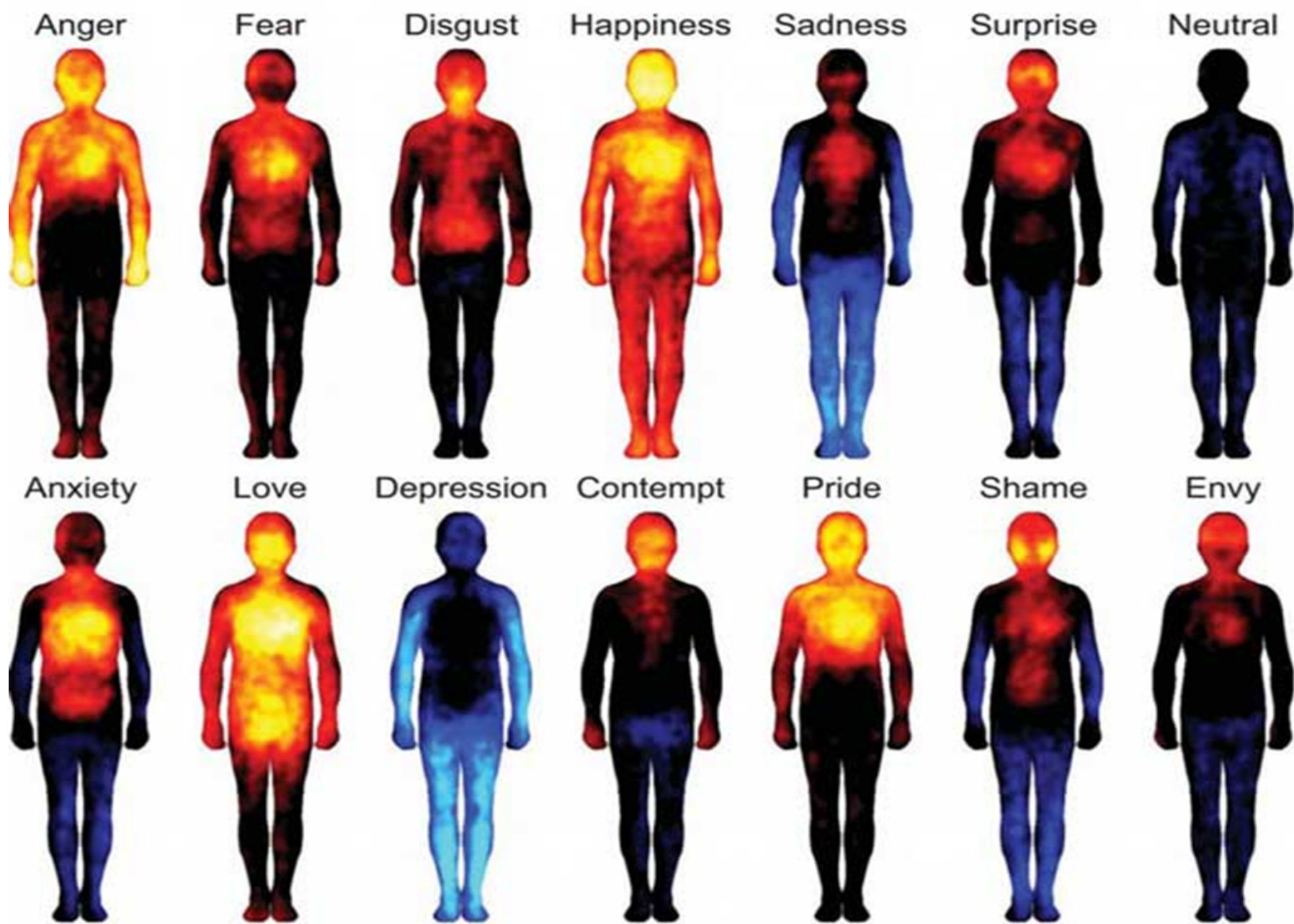
Abraham Harold Maslow (April 1, 1908 - June 8, 1970) was a psychologist who studied positive human qualities and the lives of exemplary people. In 1954, Maslow created the Hierarchy of Human Needs and expressed his theories in his book, *Motivation and Personality*.

Self-Actualization - A person's motivation to reach his or her full potential. As shown in Maslow's Hierarchy of Needs, a person's basic needs must be met before self-actualization can be achieved.

The Physiological Response to Trauma

- Rapid heartbeat
- Elevated blood pressure
- Difficulty breathing & hyperventilation
- Palpitations, irregular heartbeats
- Muscle tension
- Fatigue or overly sleepy
- Pain including headaches
- Fainting
- Flushed face or pale appearance
- Chills and cold clammy skin
- Increased sweating
- Dizziness, vertigo
- Twitches
- Stomach upset or feeling tight
- Difficulty sleeping
- Exaggerated sensitivity to light and sound, and/or quick movements





The Emotional Response to Trauma

- High states of anxiety, irritability panic, horror, terror and fear
- Hyper-arousal and overgeneralization= react in an extreme fashion to events that resemble the original trauma
- Shock reactions, including feeling numb and feelings of being in a fog
- Feelings of being paralyzed, immobile, frozen
- Dissociation which may manifest in the person appearing dazed, apathetic and vacant "as if he is not there"
- Feelings of isolation, hopelessness and helplessness
- Depression and feelings of guilt
- Abrupt mood swings
- Grief



The Cognitive Response to Trauma

- Inability to concentrate/racing thoughts
- Disorientation and confusion
- Difficulty making decisions
- Vulnerability and suggestibility
- Forgetfulness
- Self-blame and projection of blame on others
- Hyper vigilance, feeling 'on guard' at all times
- Preservative thoughts of the traumatic incident



The Spiritual Response to Trauma



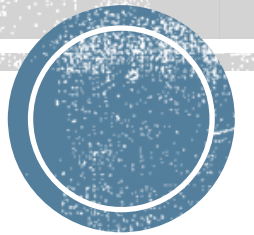
- Anger directed toward God
- Disbelief that God has not protected him/family, community
- Withdrawal from religious services
- In the converse, some immediately turn toward God and begin attending services for the first time
- May project anger toward clergy and faith community
- Some may recite prayers, hymns and arrange special services to help with anguish resulting from trauma

The Behavioral Response to Trauma

- Withdrawal
- Immobility
- Disconnection - "spacing-out"
- Changes in speech patterns
- Regressive behaviors
- Impulsivity which may include erratic movements
- Physical movements including pacing and inability to sit
- Exaggerated startle response
- Antisocial behaviors



Literature Review





Physical Activity & Mental Health



Zschucke, E., Gaudlitz, K., & Ströhle, A. (2013)

- This article did a meta-analysis on the effects of physical activity on subjects with various mental disorders.
- **Bipolar:** no conclusion
- **Binge-eating disorder:** 2 studies found moderate walking exercise significantly decreased BMI, depressive symptoms, and binge-eating episodes.
- **Bulimia:** Only 1 study. Study found exercise intervention was equally as effective as CBT in reducing “bulimia” and “Body dissatisfaction” subscales and exercise was more effective in decreasing the “drive for thinness” subscales.
- **Anorexia:** no conclusion
- **Alcohol/drug addiction:** no conclusion
- **Schizophrenia/Psychosis:** Several studies have found significant reductions in symptoms. A study combining aerobic and resistance training for 12 weeks found significant improvement in the entire Mental Health Inventory score. 2 recent studies found that yoga and aerobic exercise were equally as effective in reducing anxiety and distress

Zschucke, E., Gaudlitz, K., & Ströhle, A. (2013)

- This article did a meta-analysis on the effects of physical activity on subjects with various mental disorders.
- **Panic disorders:** Recent study found CBT to be superior to exercise in decreasing panic symptoms, 12-months post treatment, but exercise also showed positive results in decreasing symptoms
- **PTSD:** Very limited studies. 3 studies found positive effects of aerobic exercise and moderate walking on children, adolescents, and adults suffering from PTSD, however sample sizes were small.
- **Generalized anxiety disorders:** a 6-week study of females suffering from anxiety found a decrease in anxiety-tension and irritability from twice-a-week resistance and aerobic exercise
- **Social Phobia:** Exercise resulted in decreased social anxiety after 6-months. Results were equal to those of a mindfulness-based stress reduction treatment

Biddle, S. J., & Asare, M. (2011)

- This is another meta-analysis, done in 2010, investigating physical activity and depression, anxiety, self-esteem and cognitive functioning in children and adolescents.
- Summary for effects on anxiety: physical activity interventions for young people have been shown to have a small beneficial effect for reduced anxiety. However, the evidence base is limited and in need of development.
- Summary for effects on self-esteem: physical activity can lead to improvements in self-esteem, at least in the short term. However, there is a paucity of good quality research. Moreover, global measures of self-esteem can be affected by many factors beyond physical activity. Hence, measures of physical aspects of the self, such as body image or physical self-worth, important indices of psychological health in their own right might be better targets for intervention.
- Summary for effects on cognitive functioning: systematic reviews on physical activity and cognitive functioning have shown evidence that routine physical activity can be associated with improved cognitive performance, classroom behavior and academic achievement in young people, but these associations are usually small and not entirely consistent.
- Sedentary behavior and mental health: studies show consistent negative mental health associations with sedentary behavior, primarily screen viewing. This mirrors a growing literature showing adverse physical health outcomes of high sitting time.
- Overall: Authors conclude that physical activity is likely to have positive psychosocial outcomes in young people. The effects appear strongest on self-esteem. All participants are likely to benefit, but increase in success was found on subjects with poorer mental health at baseline. Higher levels of sitting/inactivity were found to be associated with poorer mental health. Authors caution that most studies examined were cross-sectional, and smaller-scale.

Brown, H. E., Pearson, N., Braithwaite, R. E., Brown, W. J., & Biddle, S. J. (2013)

- The objective of this study was to assess the impact of physical activity interventions on depression in children and adolescents using meta-analysis. 9 studies, mostly school-based RCTs were included.
- As only nine studies were included, authors advise caution in interpretation of the results.
- However, authors consider the study quality to be higher than in previous reviews, and the small but significant treatment effect suggests that physical activity may play a role in the prevention and treatment of depression in young people.

Ahn, S., & Fedewa, A. L. (2011)

- This meta-analysis analyzed 73 published and unpublished studies that investigated the effect or relationship of any type of physical activity on the mental health of children age 3-18.
- As predicted, increased levels of physical activity had significant effects in reducing depression, anxiety, psychological distress, and emotional disturbance in children, as well as increased levels of self-esteem.
- Effects were equal for children who were obese/overweight and those of typical weight. Circuit training/Strength training activities and activities combining aerobic and resistance training had the greatest effects.
- Results varied in the effects of workout intensity and frequency on results, but most studies found moderate to high intensity physical activity, 1-2 times per week to be most effective.

Poulsen, P. H., Biering, K., Andersen, J. H., & Hoegh Poulsen, P. (2016).

- This long-term study in Denmark looked at the relationship between low-levels of physical activity in adolescence and decreased mental health in young adulthood.
- The study in Denmark was of 1,589 adolescents, ages 14-15. Subjects were given ongoing surveys for 6 years to keep track of physical activity levels and mental health status.
- Researchers found girls with low-levels of physical activity throughout the study were 40% more likely to experience poor mental health than girls with high levels of physical activity.
- The relationship in boys with persistent low physical activity was weaker as they were 30% more likely to experience poor mental health at age 20 or 21.

Stanton, R., Donohue, T., Garnon, M., & Happell, B. (2016)

- This is a study of 32 mental health inpatients.
- In an exit survey, patients were more likely to review exercise treatment as “excellent” than any other intervention (relaxation, discussion/reflection, CBT).

Rosenbaum, S., Sherrington, C., & Tiedemann, A. (2015)

- 81 participants with PTSD were admitted into a 12-week inpatient treatment program at a private hospital.
- Half of the patients received usual care (psychotherapy, group therapy, pharmaceuticals), while the other half participated 3 resistance-based and walking-cased training sessions per week, in addition to usual care.
- Mean age of participants was 46 years and 82% were overweight or obese.
- Results: subjects receiving the exercise intervention in addition to usual care reported lower scores on the PTSD Civilian checklist (MD -5.4), these subjects also reported significantly greater decreases in stress, anxiety, depression, and body fat.



fMRI Studies



Goldin, P., Ziv, M., Jazaieri, H., Hahn, K., & Gross, J. J. (2013)

- In a study of 56 participants suffering from social anxiety disorder, half of participants were treated using Mindfulness-based stress reduction (MBSR), while the other have went through an aerobic exercise (AE) stress reduction program.
- The goal of the study was to examine the neural correlates of deploying attention to regulate responses to negative self-beliefs using an fMRI.
- Compared to AE, MBSR participants had greater reductions in negative emotions, increases in attention-related parietal cortical regions.
- Meditation practice was associated with decreases in negative emotion and social anxiety symptom severity, and increases in attention-related parietal cortex neural responses when implementing attention regulation of negative self-beliefs.

Stillman, C. M., Watt, J. C., Jr. Grove, G. A., Wollam, M. E., Uyar, F., Mataro, M., & ... Erickson, K. I. (2016)

- Researchers report the results of a study in which they examine the relationship between objectively measured physical activity and (1) explicit relational memory, (2) executive control, and (3) implicit probabilistic sequence learning in a sample of healthy, college-aged adults.
- The main finding was that physical activity was positively associated with explicit relational memory and executive control (replicating previous research), but negatively associated with implicit learning, particularly in females.
- These results raise the intriguing possibility that physical activity upregulates some cognitive processes, but downregulates others.

Davis, C. L., Tomporowski, P. D., McDowell, J. E., Austin, B. P., Miller, P. H., Yanasak, N. E., ... & Naglieri, J. A. (2011)

- 171 overweight children, ages 7-11, were randomly assigned to a 13-16 week exercise program, or a control group.
- Standardized psych evaluations measured cognition and academic achievement. fMRI was used to measure brain activity during executive functioning tasks.
- Results found benefits of exercise on executive function and mathematics achievement.
- There was also evidence of increased bilateral prefrontal cortex activity and reduced bilateral posterior parietal cortex activity due to exercise.

Li, L., Men, W. W., Chang, Y. K., Fan, M. X., Ji, L., & Wei, G. X. (2014)

- 15 female college students were scanned using fMRI while performing a working memory task, the N-back task, both following an acute exercise session with 20 minutes of moderate intensity and a control rest session.
- Despite the lack of an effect on behavioral measures, significant changes after acute exercise with activation of the prefrontal and occipital cortexes and deactivation of the anterior cingulate cortexes and left frontal hemisphere reflect the improvement of executive control processes, indicating that acute exercise could benefit working memory at a macro-neural level.
- In addition to its effects on reversing recent obesity and disease trends, results provide substantial evidence **highlighting the importance of promoting physical activity across the lifespan to prevent or reverse cognitive and neural decline.**

Choi, J. W., Han, D. H., Kang, K. D., Jung, H. Y., & Renshaw, P. F. (2015)

- Thirty-five adolescents with ADHD were randomly assigned to one of two groups in a 1/1 ratio; methylphenidate treatment + 6-wk exercise (sports-ADHD) or methylphenidate treatment + 6-wk education (eduADHD)
- **Conclusions:** The current results indicate that aerobic exercise increased the effectiveness of methylphenidate on clinical symptoms, perseverative errors, and brain activity within the right frontal and temporal cortices in response to the Wisconsin card sorting test stimulation.



Keep in Mind



Safety

- Medical clearance for all participants
- Signed waiver as appropriate
- Asthma-inhalers on each client who needs
- Seasonal allergies



Triggers

- Be mindful of any potential trauma triggers

- Emotional

- Physical

- Sexual

- Environmental

- And those we do not immediately think about

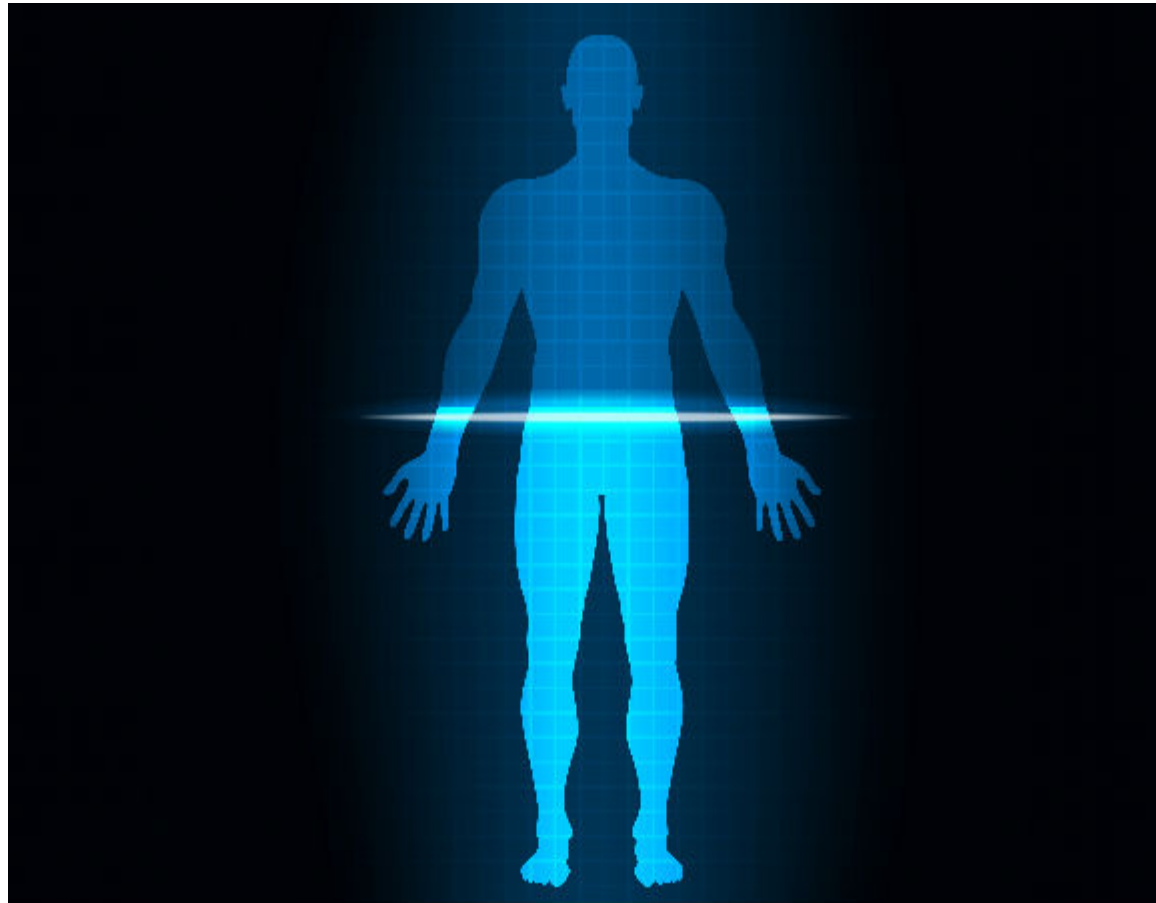


Intervention



What brings you here?

- Body Scan
- Setting Goals
- Evaluating Motivation



Setting Goals



How Long

- How long can you hold a plank?
- Measure yourself

How Strong

- How much?

How Fast

- How fast can you run 100 yards?
- What do you need to do to get there?
- Practice

How Connected

- Balance
- Close to goals

Intervention Program Focus

A square with a textured orange background, divided vertically into two slightly darker shades of orange.

Strength

A square with a textured blue background, divided vertically into two slightly darker shades of blue.

Endurance

A square with a textured blue background, divided vertically into two slightly darker shades of blue.

Mind-Body

Intervention Program Focus

A square with a blue, textured background, divided into four quadrants by a vertical and a horizontal line. The word "Strength" is centered in the square.

Strength

A square with an orange, textured background, divided into four quadrants by a vertical and a horizontal line. The word "Endurance" is centered in the square.

Endurance

A square with a blue, textured background, divided into four quadrants by a vertical and a horizontal line. The words "Mind-Body" are centered in the square.

Mind-Body

Checkpoint

- What did you expect?
- What do you need?
 - Physical
 - Mental
 - Environmental
- Modify goals



Intervention Program Focus

A square area with a blue, textured background, possibly representing a wall or a fabric. The texture is a mix of light and dark blue tones.

Strength

A square area with a blue, textured background, similar to the first one, with a mix of light and dark blue tones.

Endurance

A square area with an orange, textured background, similar to the others, with a mix of light and dark orange tones.

Mind-Body

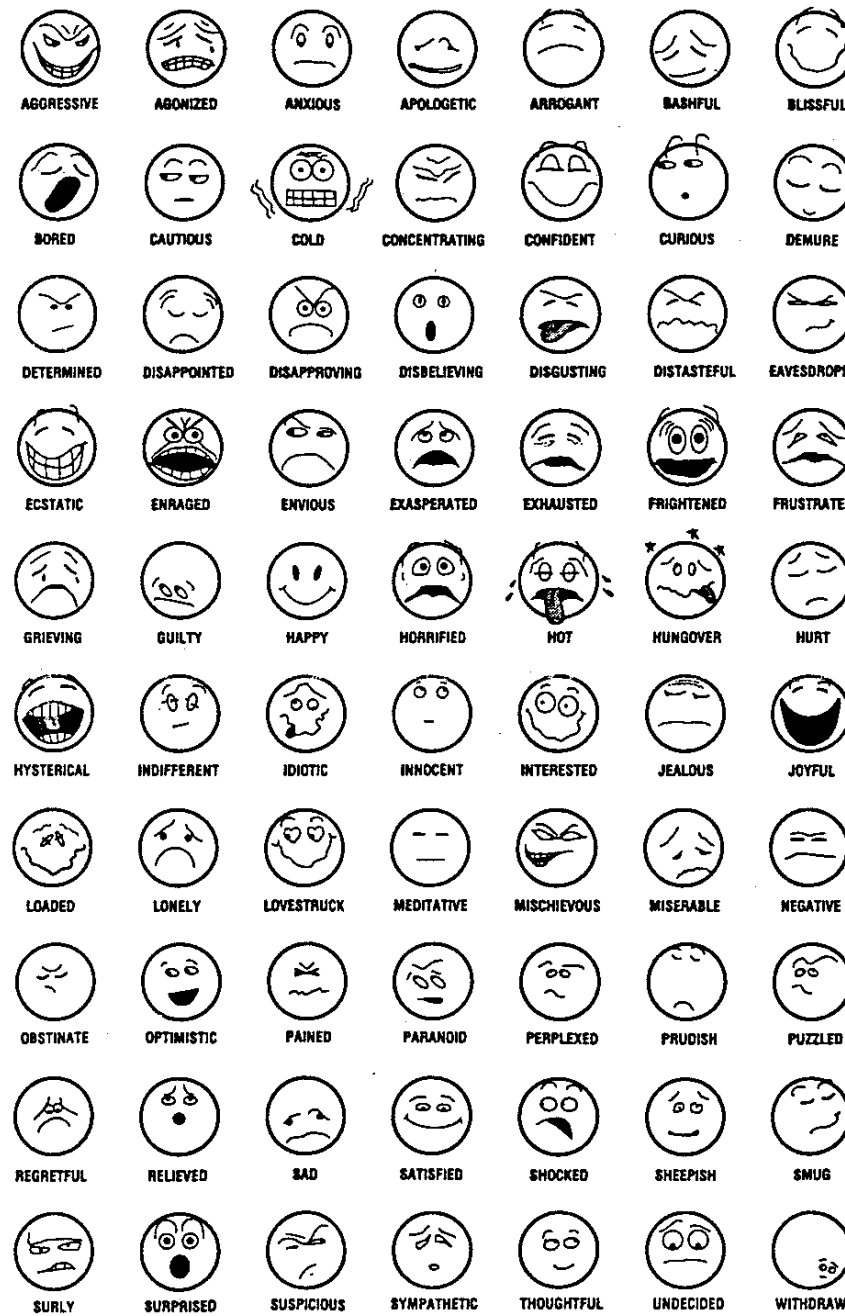


Analysis



Emotion Check-In: Top Responses

- I feel...
 - Tired
 - Bored
 - Angry
 - Stressed
 - Frustrated
 - Overwhelmed
 - Exhausted

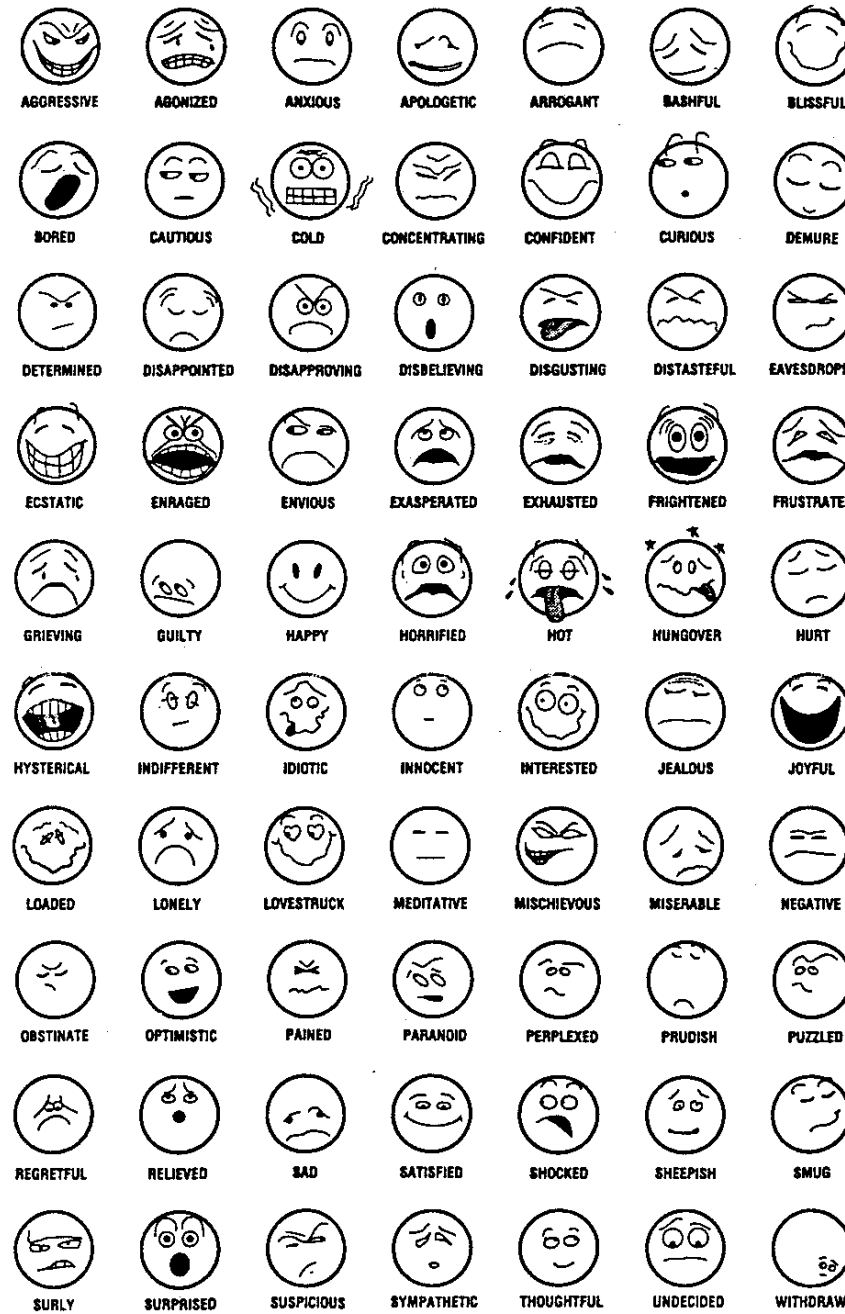


Sad Mad Glad Hurt Ashamed Afraid

How do you feel right now?

Emotion Check-Out: Top Responses

- I feel...
 - Accomplished
 - Better
 - Happier
 - Confident
 - Energized
 - “Wow”
 - Excited

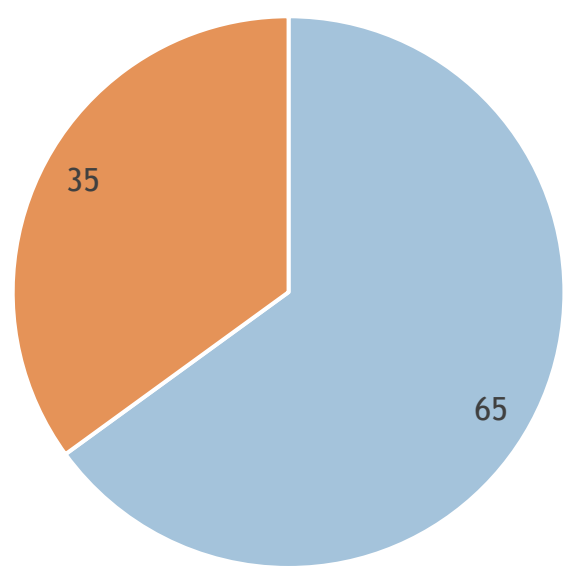


Sad Mad Glad Hurt Ashamed Afraid

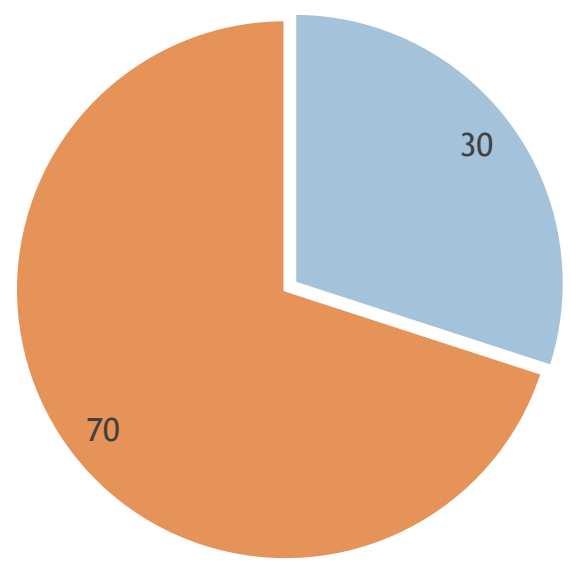
How do you feel after this program?

Do you think this program would be helpful to you? (Pre-test)

Physical



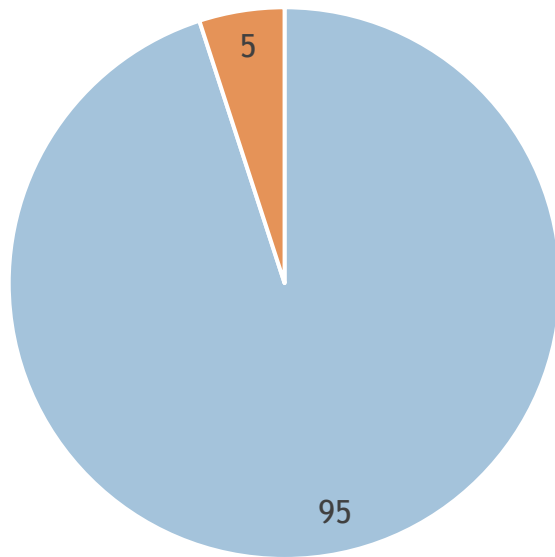
Mental



Sample Size: 87

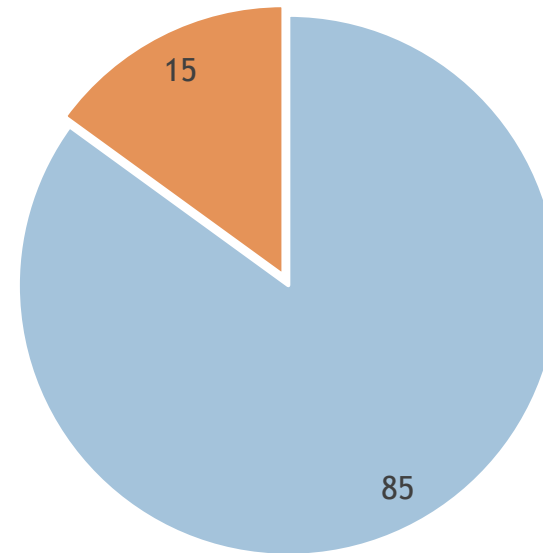
Was this program would be helpful to you? (Post-test)

Physical



■ Yes ■ No

Mental



■ Yes ■ No

Sample Size: 87

Open-Ended Check-Out Responses

- I feel like I'm high.
- I didn't think that I would feel better but I do.
- I want do to this again.
- Exercise has always been my therapy.
- I never liked running but this was better.
- I like that I feel better but I didn't have to talk.
- I wish there was a beginners group and an advanced group.
- I don't like sweating but I'll do yoga.



Where we go next



Increase number of participants

Continue to offer the program to multiple clients in the agency setting

Evaluate motivation, barriers and outcomes

Provide additional programming options to include relevant exercise programs (spinning)

Long, Long Term Goals

Collect and analyze quantitative data

Generalize program to other agency settings

Complete a longitudinal study for intervention effectiveness

**Long Term
Goals**





Questions





- Jalen Beebe, Research Assistant
- Covenant House Missouri clients and staff
- Sue King, Executive Director, Covenant House Missouri
- Lori Brant, Clinical Director, Covenant House Missouri

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Missouri Institute of Mental





Julia Peters, MSSW, LCSW
Therapist
Covenant House Missouri
jpeters@covenanthousemo.org
314-997-3282