ASSISTIVE TECHNOLOGY AND MENTAL HEALTH

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Accessing Higher Ground Conference 2017
• Housed in the Department of Occupational Therapy at Colorado State University

• Our staff: Occupational Therapists (OT), OT graduate students, ATIT Coordinator and assistant

• The ATRC provides direct AT services and consultation on campus
AGENDA

- Mental Health Statistics
- Impact on Academic Success
- Approaches and Implementation
- How Technology Can Help
- Case Studies
- ATRC’s research
MENTAL HEALTH STATISTICS

• In 2015, nearly 1 in 5 US adults aged 18 or older experienced mental illness in a given year.

• Nearly 10 million American adults (1 in 25) have serious functional impairment due to a mental illness.

• 18.1% (42 million) of American adults live with anxiety disorders.

• Depression is the #1 cause of disability worldwide, and is a major contributor to the global burden of disease.

(Source: NIMH, 2015 & Source: NAMI, 2015)
BUT HOW DOES THIS RELATE TO THE COLLEGE POPULATION WE SERVE?

• 75% of lifetime cases of mental health conditions begin by age 24
• 1 in 4 young adults between the ages of 18 and 24 have a diagnosable mental illness
• More than 25% of college students have been diagnosed or treated by a professional for a mental health condition within the past year
• Anxiety is the top presenting concern among college students (41.6 %), followed by depression (36.4 %) and relationship problems (35.8 %)

Source - NAMI, 2017; APA, 2013)
RISK FACTORS RELEVANT TO COLLEGE STUDENTS

• Individual and Family-Related Determinants
  • Academic failure
  • Emotional immaturity
  • Excessive substance abuse
  • Loneliness
  • Family conflict
  • Personal loss
  • Poor work skills and habits
  • Social incompetence
  • Stressful life events

• Social and Environmental Determinants
  • Access to drugs and alcohol
  • Isolation and alienation
  • Peer rejection
  • Work stress

PROTECTIVE FACTORS RELEVANT TO COLLEGE STUDENTS

- **Individual and Family-Related Determinants**
  - Ability to cope with stress
  - Adaptability
  - Autonomy
  - Exercise
  - Feelings of mastery and control
  - Problem-solving skills
  - Self-esteem
  - Social conflict management skills
  - Stress management
  - Social support of family and friends

- **Social and Environmental Determinants**
  - Positive interpersonal interactions
  - Social participation
  - Social support and community networks

WHAT DO WE MEAN BY MENTAL HEALTH CONSIDERATIONS?

Refers to a broad range of conditions:

- Anxiety Disorders
- Bipolar Disorder
- Depression
- Eating Disorders
- Obsessive-Compulsive Disorder (OCD)
- Personality Disorders
- Post-Traumatic Stress Disorder (PTSD)
- Schizophrenia
- Social Phobia (Social Anxiety Disorder)
- Sleep Disorders

APA, NIMH
IMPACT

- Depressed mood
- Anhedonia (don’t find pleasure in things)
- Altered sleep
- Change in psychomotor behavior
- Fatigue/loss of energy
- Feelings of worthlessness or guilt
- Impaired cognition
- Thoughts of death or suicide
- Avolition
- Racing thoughts or ideas
- Distractibility
- Excessive Goal-directed activity
- Medication side-effects

- Attention
- Reduced recall (memory)
- Impaired ability to make associations
- Time management
- Problem solving
- Decision making
- Emotional regulation problems
- Muscle aches
-Obsessions & Compulsions
- Recurrent & Intrusive thoughts
- Excessive Worry
- Isolation
- Other areas?
APPROACH AND IMPLEMENTATION: THE INTAKE

Intake

- Therapeutic use of self
  - Build rapport and support network
- Meaningful context and tasks
  - Preference on technology
  - What tasks?
  - Environment
- How?
  - Brief occupational profile
  - Disability, accommodation, AT history
  - Task specific exploration: barriers/strategies
APPROACH AND IMPLEMENTATION: THE INTERVENTION

• Provide AT that supports self-efficacy and builds confidence in academic abilities
• Ongoing support
• Adjust as needed
• Refer to other resources as needed
  • Counseling
  • Mindfulness and stress management courses
HOW TECHNOLOGY CAN HELP
MOTIVATION

• Technology that tracks progress
  • Flashcards
  • Pomodoro technique
  • Spelling and grammar

• Using tools when doing other activities
  • Listen to textbooks when working out, commuting
FOCUS

• Pomodoro technique
• Website blockers and timers
• Literacy support software to help with distractibility
  • Text-to-speech
  • Speed reading
  • Annotation tools
MEMORY

- To-do List apps
- Note apps
- Recording options
  - Recorders
  - Livescribe pen
  - Apps
• Calendars
  • Scheduling to support mental health
• Time blocking
• Multiple reminders
  • Apps with positive reminders
• Thought organization
  • Mind mapping
• Dictation software to get racing thoughts out
SELF MANAGEMENT

• Mindfulness apps
  • Guided meditation
  • Breathing techniques
  • Stress management
• Mood tracking apps
  • track stress levels and mood
• Sleep apps
• Exercise tracking apps
CASE STUDIES
CASE STUDY - JULIE

• Biology Major
• Junior
• Recently diagnosed with OCD and has a history of anxiety
• Is a great student but is feeling overwhelmed and experiencing trouble completing all student tasks within an intense program
JULIE’S PERFORMANCE SKILLS

Academic Challenges

• Reading
  • skips over words, “zones out” after a sentence or two

• Note taking
  • everything seems equally important, forgets information if she doesn’t get everything down

• Writing
  • creative writer, but sometimes struggles with organizing thoughts

• Studying
  • not sure how else to quiz self

• Excessive study time
  • due to particular preferences in organization, reading and writing

Academic Strategies and Preferences

• Audio books

• Type notes

• PC laptop & iPad pro

• Prefers tools on iPad pro
JULIE’S TECHNOLOGY SUPPORTS

- Voice Dream Reader
  - Accessed books on iPad pro
  - Listened to audio and highlighted important pieces
  - Screen masking with spotlight (help with focus and words jumping)

- Notability
  - Color coded organization
  - Record feature

- Mindview
  - Idea organization with easy exporting

- Quizlet
  - Diagram feature
  - Alternative self-quizzing features

- Other supports:
  - Reduced course load, extended test time, counseling, routine exercise
CASE STUDY - DAN

• Forestry Major
• Veteran - 15 years in the Army
• Father of 3 children - commutes over an hour to see family
• Diagnosed with PTSD, depression, orthopedic injuries
Academic Challenges

• Reading
  • can’t keep up, slow speed, low comprehension, falls asleep

• Note taking
  • difficulty with recall and focus, falls behind

• Time management/organization
  • Busy family life, misses appointments, forgets notes to self

• Large lecture halls and crowds
  • triggers PTSD

Academic Strategies and Preferences

• Listens to Podcasts while he walks
• Prefers to handwrite notes in class
• Windows laptop and iPhone
• Connected with VA psychiatrist and campus resources for Veterans
DAN’S TECHNOLOGY SUPPORTS

• Kurzweil to create audio files of readings
  • Listened to audio on walks and during commuting
  • Used different voices for variety
• Livescribe Pen – funded by VA
  • Helped with focus in class
  • Studied by reviewing notes
• Google Calendar – shared with family
  • Imported Canvas schedule
  • Color coding
  • Multiple alerts
• Evernote to keep track of to do lists and notes
• Apps to help manage PTSD
  • Calm
  • Headspace
  • Relax Melodies
• ATRooms in campus library
A TRC’S RESEARCH FINDINGS
ATRC USE OF COPM

- Focuses areas of occupation on academic skills in postsecondary education

**How do you rate your performance?**

**How satisfied are you with this task?**
COPM SATISFACTION

COPM Satisfaction rating (1-10)

- Learning disability
- Mood disorder
- Visual deficit
- CNS damage
- Mental/behavioral disorder
- Mobility deficit/pain

pre vs. post
RESULTS

• Significantly different changes in performance and satisfaction ratings between groups (p<0.02)

• Greatest change seen for those with mood disorders (p<0.05)

THANK YOU!

Questions?

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Slide show will be available on the ATRC Website (http://atrc.colostate.edu/presentations.aspx)
REFERENCES

• Assistive Technology for Supporting People with Mental Health Conditions: Part 1, Mark Harniss, PhD, Maria Kelley, OTR/L, ATP (this is a PDF presentation…)
• Assistive Technology Outcomes in Post-Secondary Students with Disabilities: the Influence of Diagnosis, Gender, and Class-Level, Marla C. Roll, MS, OTR/L, Matt P. Malcolm, PhD, OTR/L, 11/12/17

- Recommended AT for Students with Mental Health Disorders in Higher Education, Mindy Fletcher, Anna Cliff, 4/15/13

- Source: NIMH, 2015 & Source: NAMI, 2015
- Source - NAMI, 2017; APA, 2013
- Source - NAMI, 2017; APA, 2013
- APA, NIMH