Neurobehavioral training references
By Greg Siegle, 12/15/10-10/18/11

General: Literature
- Regulatory control strategies more generally: (Aldao et al.; Zelazo and Cunningham, in press)
- Neurobehavioral training: (Siegle et al., 2007)

Attention Training
- Literature:
  - Attention training mechanisms
    - Neuroimaging: (Dux et al., 2009; Browning et al., 2010)
    - Costs & benefits: (Van Bockstaele et al., 2010)
  - Anxiety:
    - Mostly dotprobe. (MacLeod et al., 2007; Li et al., 2008; Amir et al., 2009; Schmidt et al., 2009; See et al., 2009; Reese et al., 2010).
    - Occasionally augmented pharmacologically: (Davis et al., 2006; Behar et al., 2010)
  - Depression
    - Attentional bias: (Baert et al., 2010)
    - Attention training: (Papageorgiou and Wells, 2000)
- Smokers: (Field et al., 2009)
- Chronic pain: (Dehghani et al., 2004)
- Outside psychiatry – healthy people: (Owen et al.; Dandeneau et al., 2007; Pilly et al., 2010)
- Getting the interventions
  - http://selfesteemgames.mcgill.ca/games/sematrix.htm - Interventions described in (Dandeneau et al., 2007)
  - iPhone/Android application currently in testing phases http://handheldtrainingstudy.com/
  - Software to create the original attentional probe task used in (MacLeod et al., 2007): http://www.psy.uwa.edu.au/labs/cogemo/AttProbe1.html
- On-line discussion group: http://www.linkedin.com/groups?about=&gid=3170828

Interpretation Training & “Cognitive bias modification”
- Literature
  - Review: (Hoppitt et al., 2010). Commentary: (Koster et al., 2009; MacLeod et al., 2009)
  - Basic mechanisms/moderators (Grey and Mathews, 2000; Holmes et al., 2006; Grey and Mathews, 2009; Standage et al., 2009; Hoppitt et al., 2010; Salemink and van den Hout, 2010; Standage et al., 2010)
  - Healthy adolescents: (Lothmann et al., 2011)
  - Anxiety: (Holmes et al., 2006; Mackintosh et al., 2006; Wilson et al., 2006; Murphy et al., 2007; Grey and Mathews, 2009; Hayes et al., 2010; Steinman and Teachman, 2010)
  - Depression: (Holmes et al., 2009; Lang et al., 2009; Watkins et al., 2009; Baert et al., 2010). (Holmes et al., 2006; Holmes et al., 2009; Lang et al., 2009)
  - Schizophrenia: (Steel et al., 2010)

Other
- Perspective Broadening: (Schartau et al., 2009)
- Prism adaptation for spatial cognition disorders (Rode et al., 2006)
Cognitive Skills (e.g., working memory) Training

- Literature
  - Schizophrenia:
    - Mostly cognitive training: (Delahunty et al., 1993; Delahunty and Morice, 1996; Bell et al., 2003; Hogarty et al., 2004; Bell et al., 2007; Greig et al., 2007; Kurtz et al., 2007; Bell et al., 2008; Cavallaro et al., 2009; Draper et al., 2009; Galderisi et al., 2009; Xu et al., 2010; Haut et al., 2010, in press). Some with neuroimaging: (Eack et al., 2010; Haut et al., 2010, in press)
    - Older literature: Book: (Parentâe and Herrmann, 2003). Review: (Twamley et al., 2003)
    - Affect recognition training: (Habel et al., 2010)
    - Social skills training: (Galderisi et al., 2009; Granholm et al., 2009)
  - Depression: (Siegle et al., 2007)
  - Speed of processing: (Wolinsky et al., 2009)
  - Smoking: (McHugh et al., 2010)
  - Sexual dysfunction: (Beard and Amir, 2010)
  - Hypocondriasis: (Papageorgiou and Wells, 1998)
  - Outside psychiatry – healthy people: (Owen et al.; Pilly et al., 2010)
  - Older adults: (Buschkuehl et al., 2008; Jaeggi et al., 2008)
  - Personalization

- Getting the interventions
  - http://www.bbc.co.uk/labuk/results/braintestbritain/4_brain_training_games.html
  - http://www.braintrain.com/
  - http://www.lumosity.com/
  - http://www.shinylearning.co.uk/memorygames/index.shtml

EEG-based Neurofeedback

- Literature
  - For regulatory control: (Johnston et al.; Lubar, 1997; Yoo and Jolesz, 2002; Cho et al., 2004; Congedo et al., 2004)
  - Basic Effects on EEG: (Egner et al., 2004)
  - Review: (Hirshberg et al., 2005; Heinrich et al., 2007)
  - ADHD: (Lubar et al., 1995; Cho et al., 2002; Fuchs et al., 2003; Butnik, 2005)
  - Anxiety: (Hammond, 2005)
  - Learning disability: (Fernandez et al., 2003)
  - Alcoholism & Substance use: (Saxby and Peniston, 1995; Trudeau, 2005)
  - Chronic Fatigue: (James and Folen, 1996; Hammond, 2001)
  - Depression: (Baehr et al., 1997)

- Getting equipment
  - Ambulatory blue-tooth EEG via www.emotiv.com
    - With app-store purchase of emotive brain-activity-map
  - XWave iPhone app with 1-electrode system: http://www.dosenation.com/listing.php?id=8130
  - http://www.brain-trainer.com/?gclid=C0m9-6iX86sCFct-5QodIUIZKQ
  - http://www.brainmaster.com/?gclid=CJ7o7LGX86sCFYoDQAodoT5vKw

Mindfulness as training
Neurorehab

- Literature
  - Review: (Riddoch and Humphreys, 1994; Nadeau, 2002; Taub et al., 2002; van den Broek, 2005; Dietz, 2006; Floel and Cohen, 2006; Gonzalez Rothi and Barrett, 2006; Johnson and Stein, 2006; Arenth et al., 2007; Feng and Winters, 2007; Dimyan et al., 2008; Johnson, 2008; Mernoff, 2008; Ruff et al., 2008; Carabalona et al., 2009; Gaggioli et al., 2009; Kwakkel, 2009; Sinkaer and Popovic, 2009; Whyte et al., 2009; Flanagan, 2010; Gillen, 2010)
  - Stroke
    - With BCI: (Daly et al., 2009)
    - Reviews: (Good, 2003; Bonaiuti and Grimaldi, 2007; Ang et al., 2010; Gillen, 2010; Golden and Slezak, 2010)
  - TBI: (Murrey and Starzinski, 2004; Cernich et al., 2010; Hoffman et al., 2010; Pachalska et al., 2010)
  - MS: (Kidd and Thompson, 1997; Allen et al., 1998; Liu et al., 2003; Kesselring, 2004; Thompson, 2005; Penner et al., 2006)
  - Alcohol: (Allen et al., 1997)
  - Anomia - (Vitali et al., 2010)
  - Electrical injuries: (Cherington, 2005)
  - Aphasia - (Raymer et al., 2008)
  - Locked in syndrome - (Trojano et al., 2010)
  - ADHD: (Wang and Reid, 2010)
  - Neural transplantation... really... (Dobrossy et al., 2010)
  - PTSD: (Williams et al., 2003; Sherer et al., 2009)
References


Greig TC, Zito W, Wexler BE, Fisdon J, Bell MD (2007) Improved cognitive function in schizophrenia after one year of cognitive training and vocational services. Schizophr Res 96: 156-161


Haut KM, Lim KO, MacDonald AW (2010, in press) Prefrontal cortical changes following cognitive training in patients with chronic schizophrenia: Effects of practice, generalization, and specificity. Neuropsychopharmacology


Koster EH, Fox E, MacLeod C (2009) Introduction to the special section on cognitive bias modification in emotional disorders. J Abnorm Psychol 118: 1-4
Riddoch MJ, Humphreys GW (1994) Cognitive neuropsychology and cognitive rehabilitation. L. Erlbaum, Hove (UK); Hillsdale NJ (USA)


