Adult Keynote Address:
Positive psychotherapy – what the science of happiness has to offer clinical neuropsychology

Professor Jon Evans (University of Glasgow)
(Convened by Dr Phil Yates)
Positive psychotherapy – what the science of happiness has to offer clinical neuropsychology

Jon Evans
Positive psychology (PP) is the scientific study of positive emotion and well-being.

Although there is a long history of study of wellbeing, the huge increase in research in the last decade is the result of the work of Martin Seligman and colleagues.
Positive Psychology: the science of happiness

Unhappiness
Poor Wellbeing
Mental illhealth

-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

Happiness
Wellbeing
Mental health

Positive Psychotherapy
Alleviating Suffering + Increasing Well-Being
• Seligman doesn’t like happiness (or at least the word)
  – “happiness”….underexplains what we choose…the modern ear hears “happy” to mean buoyant mood, merriment, good cheer and smiling. Just as annoying, the title saddled me with that awful smiley face…. (Seligman 2011, p10)

• Aung San Suu Kyi
  – “Yes I think so, because I don’t feel unhappy …the thing about happiness is ...you don’t know when you are happy…that’s what people say….so I think I am happy because I certainly don’t think I am unhappy. June 2011
• Positive Psychology is not about ‘positive thinking’
• Oliver Burkeman, The Antidote: Happiness for people who can’t stand positive thinking
• On Seligman and Positive Psychology
• “He’s excellent because he’s quite open about being sort of a grouch….enables me to make this distinction between positive psychology and positive thinking…..I take the label positive psychology to mean the psychology that looks at the causes of happiness instead of only focusing on the causes of pathologies…whereas I take positive thinking to somehow replace by will negative emotions with positive ones….and go after the positive at all costs. There’s a lot been done in the field of positive psychology that just says, hey, we’ve got to take happiness seriously…..” March 2013
https://www.youtube.com/watch?v=osJ-J2x7qFw
Defining happiness & wellbeing

The pleasant life
Positive emotion – pleasure, warmth, comfort

The meaningful life
Using character strengths to meet challenges in everyday life. Concept of ‘flow’

The engaged life
Belonging to, and serving positive institutions - family, community, public service
Seligman (2011) extended this, to include five elements:

- Positive emotion
- Engagement
- Positive Relationships
- Meaning
- Accomplishment
Relevance to brain injury rehabilitation?

• Brain injury devastates the lives of many people.
• “An existential crisis”
• Impacts on ability to participate in activities that give pleasure and meaning, activities that contribute to sense of identity
  “At the deepest level it can alter one’s sense of self or the unique and persisting qualities that define who we are” Ownsworth 2014.
• Mood disorder, adjustment difficulties are highly prevalent
Gould et al., 2011

60% had some psychiatric disorder in first year

Present in first six months

Developed later in year
The evidence base is limited and does not support clear guidelines…..

SIGN 130 Brain injury rehabilitation in adults
- Highlights limited evidence base
- Inconclusive for treatment of depression
- Cognitive Behaviour Therapy (CBT) should be considered for the treatment of anxiety symptoms following mild to moderate TBI, as part of a broader neurorehabilitation programme
We also know that many people cope well, adjust and in fact experience positive psychological growth

- ‘experience of improved personal relationships, positive change in perception of self and an emerging philosophy of life’

- Hawley and Joseph (2008) - over half of a sample of 165 TBI survivors showed evidence of positive growth

- Collicut McGrath and Linley (2006) - ‘substantial positive psychological change’
So, seems reasonable to ask what the science of happiness has discovered and ask what we might be able to use in the rehabilitation context.

Positive Psychology and Brain Injury Rehabilitation

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BRAIN IMPAIRMENT
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One of the key early tasks for positive psychology was developing tools for measuring aspects of well-being.

**Emotion Questionnaires:**
- **Authentic Happiness Inventory Questionnaire:** Measures Overall Happiness
- **CES-D Questionnaire:** Measures Depression Symptoms
- **Fordyce Emotions Questionnaire:** Measures Current Happiness
- **General Happiness Questionnaire:** Assesses Enduring Happiness
- **PANAS Questionnaire:** Measures Positive and Negative Affect

**Engagement Questionnaires:**
- **Brief Strengths Test:** Measures 24 Character Strengths
- **Gratitude Questionnaire:** Measures Appreciation about the Past
- **Grit Survey:** Measures the Character Strength of Perseverance
- **Optimism Test:** Measures Optimism About the Future
- **Transgression Motivations Questionnaire:** Measures Forgiveness
- **VIA Survey of Character Strengths:** Measures 24 Character Strengths
- **VIA Strength Survey for Children:** Measures 24 Character Strengths for Children
- **Work-Life Questionnaire:** Measures Work-Life Satisfaction

**Meaning Questionnaires:**
- **Close Relationships Questionnaire:** Measures Attachment Style
- **Compassionate Love Scale:** Measures your tendency to support, help, and understand other people
- **Meaning in Life Questionnaire:** Measures Meaningfulness

**Life Satisfaction Questionnaires:**
- **Approaches to Happiness Questionnaire:** Measures Three Routes to Happiness
- **Satisfaction with Life Scale:** Measures Life Satisfaction
Figure 6. Words, phrases, and topics most distinguishing extraversion from introversion and neuroticism from emotional stability.

http://www.plosone.org/article/info:doi/10.1371/journal.pone.0073791
Figure 3. Words, phrases, and topics most highly distinguishing females and males.


http://www.plosone.org/article/info:doi/10.1371/journal.pone.0073791
Increasing well-being

- Second major task has been development of interventions that aim to increase well-being
- Trials in healthy adults
- Development of Positive Psychotherapy by Rashid & Seligman

- Sin and Lyubomirsky (2009) report a meta-analysis of 25 studies that have examined the impact of positive psychology interventions on people with depression and found a medium mean effect size (r = .31).

- Identifying character strengths & using them in a new way
- Three good things journal
- Forgiveness letter
- Gratitude visit
- Satisficing vs maximising - focusing on being ‘good enough’
- Savouring
- Gift of time (giving time in service of ‘community’)

Positive Psychotherapy

Alleviating Suffering + Increasing Well-Being
Implications for neuropsychological rehabilitation?

- Already have a focus on well-being in defining aim of rehabilitation
  - “the establishment of a meaningful and satisfactory life” (Ciccone et al., 2008)
  - The purpose of rehabilitation is to ‘reduce disability and increase participation in valued activities’ (Hart & Evans 2006)

- But may be reasonable to focus more explicitly on maximising well-being, addressing each of the elements of well-being
Exploring the use of positive psychology interventions in brain injury survivors with challenging behaviour

H. E. Andrewes¹, V. Walker¹, & B. O’Neill¹,²

• Three Good things & Signature strengths
• Group intervention
• “This novel study suggests that interventions from the positive psychology literature can improve mood and self-concept in a sample of survivors with severe brain injury”
• Brief positive psychotherapy after acquired brain injury: A pilot randomised controlled trial
• Positive PsychoTherapy in ABI Rehab (PoPsTAR)

• PoPsTAR Team
  – Prof Jon Evans
  – Dr Breda Cullen
  – Dr Niall Broomfield
  – Dr Denyse Kersel
  – Dr Jaycee Pownall
  – Dr Joanne Cummings
  – Dr Satu Baylan
  – Dr Heather Murray
  – Dr Caroline Haig
• PoPsTAR Interventions
  – Using signature strengths to drive goal setting
  – Gratitude – reflecting on and recording
  – Savouring – Learning to savour
  – Three good things diary
  – Gift of time
Session 1: Information about stroke/brain injury. Introduction to Positive Psychology
Session 2: Character strengths
Session 3: Gratitude, Savouring and Three Good Things
Session 4: Mid-point summary and review
Session 5: Optimism, hope and personal growth
Session 6: The gift of time
Session 7: The full life
Session 8: Final summary and plan for future maintenance
• **Character strengths**

**VIA Character Strengths & Virtues**  
*Peterson and Seligman, 2004*

- Courage
- Temperance
- Justice
- Transcendence
- Humanity
- Wisdom and knowledge
- Appreciation of Beauty and Excellence
- Social Intelligence
- Hope
- Humour
- Spirituality
- Self-regulation
- Prudence
- Humility/Moderacy
- Forgiveness and Mercy
- Leadership
- Fairness
- Love of Learning
- Perspective
- Open-mindedness
- Curiosity
- Creativity
- Brovery
- Integrity
- Vitality
- Love
- Kindness
- Social Intelligence

**A life of pleasure, engagement and meaning**

• **Using character strengths to guide goal setting**
SESSION 3:
Gratitude, Savouring, and ‘Three Good Things’

Three Good Things Diary

Monday – date:
1st good thing:

Why did it happen?

2nd good thing:

Why did it happen?

3rd good thing:

Why did it happen?
Session Exercise

Examples of growth

Relationships – Difficult times often show us who our real friends are. Have you experienced a deeper connection with family or friends since your illness?

Greater appreciation of life and sense of priorities – Have you noticed a change in what you view as the really important things in life? Do you appreciate each day?

Feelings of inner strength – Did you discover that you are stronger than you thought? Do you feel more able to cope with the challenges that life may send your way?

Increased sense of spirituality/meaning – Do you have a stronger sense of faith, or of the real meaning of life?
Giving the Gift of Time
Giving the Gift of Time is about taking the time to help another person or a cause you feel strongly about, by doing something for them that requires a fair amount of your time and draws on one of your Signature Strengths. This is not about enhancing your pleasure – in fact, the activity you do might be quite boring, tedious or tiring. However, in the long run you will find that the satisfaction you gain from giving the Gift of Time is more rewarding and long-lasting than seeking immediate pleasures in life.

Session Exercise
This week, set a goal that involves giving the Gift of Time.
My goal is to:

Which of your five Signature Strengths does this situation relate to (may be more than one Strength)?

What do I need to do to achieve this goal? (what actions do I need to take; what resources do I need [information, things, time]; who could help me?) – I will:
SESSION 7: The Full Life

The Full Life

The Engaged Life  The Pleasant Life  The Meaningful Life
• A two-arm, parallel group, single-blind pilot randomised controlled trial (RCT), comparing brief positive psychotherapy and treatment as usual over a 20 week intervention and follow-up period.

• Adults with acquired brain injury and emotional distress recruited from community/out-patient stroke and brain injury services within NHS Greater Glasgow & Clyde.
• **Primary research question:**
  • What are the likely recruitment, adherence and retention rates over 20 weeks for a trial comparing positive psychotherapy and treatment as usual in an outpatient setting for patients with acquired brain injury?

• **Secondary research questions:**
  • (i) Is a brief positive psychotherapy intervention feasible to deliver in an outpatient setting with patients presenting with emotional distress following acquired brain injury?
  • (ii) Are positive psychology assessment tools reliable in people with acquired brain injury?
  • (iii) Is a full-scale RCT of brief positive psychotherapy indicated, and if so, what is the required sample size?
  • (iv) What is the feasibility of carrying out adherence/competence checks of intervention delivered?
• **Summary of primary and secondary outcome measures**

• **Primary outcome measure:**
  – Recruitment rate; treatment adherence; and sample retention at 20 weeks from baseline

• **Secondary outcome measures:**
  – Test-retest reliability of **Authentic Happiness Inventory** (AHI) and VIA-IS
  – Change in DASS-21 scores at 20 weeks from baseline
  – Changes in AHI, MPAI-4 and M-CSI scores at 20 weeks from baseline
  – Likert ratings of participants’ and therapist’s experiences of treatment delivery.
Enrolment
Assessed for eligibility n=37

Randomised n=27

Excluded
Not meeting inc criteria 5
Declined to take part 5

Allocated to intervention n=14
Completed N= 9
Did not return qu’s  N=4
Withdrawn  N=1
Completed N= 10
Did not return qu’s  N=3
Withdrawn  N=1
Completed N= 9
Did not return qu’s  N=2
Withdrawn  N=2
Analysed N= 8
Excluded (incomplete data)  N=1

Allocated to control n=13
Completed N= 10
Did not return qu’s  N=2
Withdrawn  N=1
Completed N= 10
Did not return qu’s  N=2
Withdrawn  N=1
Completed N= 10
Did not return qu’s  N=2
Withdrawn  N=1
Analyse N= 7
Excluded (incomplete data)  N=1

Mid Intervention Wk 5
End Intervention Wk 9
Follow up Wk 20

76 agree to be approached (9 ineligible, 17 not interested)
50 agreed to screening (13 lost contact)
What are the likely recruitment, adherence and retention rates over 20 weeks for a trial comparing positive psychotherapy and treatment as usual in an outpatient setting for patients with acquired brain injury?

Retention was 62% in the control group and 64% in the intervention group (63% overall)

Of the 12 who commenced, n=8 attended all eight planned sessions.
• Assessment of treatment fidelity
  – All treatment sessions were audio recorded
  – 24 sessions were randomly selected (by BC) for evaluation of fidelity (by JE)
  – All were rated ‘consistent with protocol’.
Secondary research questions:

(i) Is a brief positive psychotherapy intervention feasible to deliver in an out-patient setting with patients presenting with emotional distress following acquired brain injury?

Completion rates for assigned homework were high

- Across all participants who attended at least one session that involved homework, 74% of assigned tasks were fully or partly completed.
- All eight participants who attended the full treatment programme completed at least 70% of their assigned homework.
Treatment was convenient and relevant

- At the end of Session 4 and Session 8, participants attending treatment completed a feedback form (unseen by the therapist) regarding their opinion of the convenience of appointments, relevance of treatment to their concerns, ease of using workbooks within sessions, and ease of homework completion (7-point Likert scales with lower ratings being more favourable).

- Median ratings for all aspects at both time points were 2.5 or lower.
Majority of comments on the treatment were positive:

- “Great experience. Feel privileged to be in 'chosen' group and feel I have benefited greatly from sessions. Will try to build in maintenance and keep positive outcome ongoing.” (ID 1013).
- “Exactly what I needed after suffering a stroke at a young age - confidence and fear play a massive part - this treatment has been invaluable.” (ID 1024).
- “Recapping was good for me. I don't realise it but i have achieved a lot” (ID 1037)
• *Secondary research questions:*
• (ii) Are positive psychology assessment tools reliable in people with acquired brain injury?

• **Acceptability and reliability of positive psychology measures**
  – The AHI and Signature Strengths exercise were re-administered after a median of 9.5 days to ascertain test-retest reliability.
  – The intraclass correlation coefficient for the AHI mean score was 0.85.
  – The median percentage agreement for the top five Signature Strengths was 60%
Secondary research questions: (iii) Is a full-scale RCT of brief positive psychotherapy indicated, and if so, what is the required sample size?

DASS Depression

![Boxplot for DASS Depression](image)

Diff = -7.96, d=0.73, p=0.250

DASS Anxiety

![Boxplot for DASS Anxiety](image)

Diff = -9.64, d=1.09, p=0.03

DASS Stress

![Boxplot for DASS Stress](image)

Diff = -5.78, d=1.10, p=0.07

AHI

![Boxplot for AHI](image)

Diff = 11.50, d=1.19, p=0.08
• **Secondary research questions**: (iii) Is a full-scale RCT of brief positive psychotherapy indicated, and if so, what is the required sample size?

• Using DASS-21 Depression score, decrease of 7 points on this measure would mean that everyone scoring in the moderate or severe ranges would drop into the range below.

• Based on the SD of the overall change score in this pilot trial (10.84), a full-scale trial comparing brief positive psychotherapy versus TAU would require n=39 per group to detect a significant change of 7 points (two-tailed alpha=0.05, power=0.80).

• Assuming 63% retention, n=62 would be required per group (total n=124).

• But of course for the ideal, three arm (**Intervention vs Attention Control vs TAU**), this would require n=100 per group to detect a significant change of 5 points (two-tailed alpha=0.017, power=0.80). Assuming 63% retention, n=159 would be required per group (total n=477).
• It’s early days, but…..
• We have developed an intervention that is straightforward to deliver, and appears to be acceptable to patients.
• Could be delivered as stand-alone outpatient intervention or as part of a comprehensive intervention package.
• Recruitment and retention was a challenge but didn’t seem to be related to the specific intervention.
• A small sample size, but effect sizes consistent with positive benefits at follow up.
• Sample size for a larger trial realistic, but only with multiple centres.
• Need for a national neuropsychological rehabilitation research network….

http://www.posneuroscience.org/
Acknowledgements