Outcomes in practice: a critical friendly workshop

Andy Fugard
UCL Research Department of Clinical, Educational and Health Psychology

a.fugard@ucl.ac.uk

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The standard evidence hierarchy dogma

- Expert opinion
- Pre-post outcome
- Quasi-experimental
- RCT
- Meta-analysis
Control group

Therapy
Average distress

Time 1

Time 2

Therapy

Control

Effect

RCT
Routine practice

Average distress

Time 1

Time 2

Effect?

Routine practice

Therapy

Effect?
Routine practice

Average distress

Time 1

Time 2

Therapy

Effect?
Routine practice

Average distress

Time 1

Time 2

Effect?
Strengths and Difficulties Questionnaire Added Value Scores: evaluating effectiveness in child mental health interventions

Tamsin Ford, Judy Hutchings, Tracey Bywater, Anna Goodman and Robert Goodman
ORIGINAL ARTICLE

Estimating effectiveness of school-based counselling: Using data from controlled trials to predict improvement over non-intervention change

Mick Cooper¹,* , Andrew J.B. Fugard², Jo Pybis³, Katherine McArthur¹ & Peter Pearce⁴

¹ University of Strathclyde, Glasgow, UK
² Research Department of Clinical, Educational and Health Psychology, University College London, London, UK
³ British Association for Counselling and Psychotherapy, Lutterworth, UK
⁴ Metanoia Institute, London, UK

*Corresponding author. Email: mick.cooper@roehampton.ac.uk
Routine practice

Average distress

Estimated non-intervention outcome (ENO)

Therapy

Estimated intervention effect

Time 1

Time 2
We found a difference of 0.33 in effect sizes.

Meta-analysis by Lipsey and Wilson (1993) of 45 studies found 0.29 difference.
You can also compare services...

*(Fugard, Stapley, Ford, Law, Wolpert & York, 2015)*

ES = 0.16

\[ I^2 = 94.9\% \]

“considerable” heterogeneity
But the real analysis begins after the stats (Fugard, Stapley, Ford, Law, Wolpert & York, 2015)

What should happen next if a service is found to have statistically significantly higher or lower outcome scores, or recovery rates, than the national average? It is important to interpret the data in the context of the processes which generated it. Data do not speak for themselves – though performance indicators are often presented as if they do.
5.2 Survival of the fittest

This revised system, based on Payment by Outcome, would have an inbuilt ‘Darwinian’ function that would ensure that patients have access to effective therapists, rather than just to practitioners trained in apparently effective therapies. In other words, only effective therapists would ‘survive’ as suppliers.
Onto the trickier bits
Evidence that Triple P helps with behavioural difficulties

<table>
<thead>
<tr>
<th>Study</th>
<th>Effect Size</th>
<th>Std. Error</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanders et al. [65]</td>
<td>6.54%</td>
<td>0.80</td>
<td>[0.52, 1.08]</td>
</tr>
<tr>
<td>Hahlweg et al. [13]</td>
<td>6.40%</td>
<td>-0.16</td>
<td>[-0.46, 0.14]</td>
</tr>
<tr>
<td>Bodenmann et al. [32]</td>
<td>5.64%</td>
<td>0.46</td>
<td>[0.06, 0.85]</td>
</tr>
<tr>
<td>Morawska &amp; Sanders [61]</td>
<td>5.60%</td>
<td>0.60</td>
<td>[0.20, 1.00]</td>
</tr>
<tr>
<td>Sanders et al. [27]</td>
<td>5.12%</td>
<td>0.26</td>
<td>[-0.20, 0.73]</td>
</tr>
<tr>
<td>Morawska &amp; Sanders [62]</td>
<td>4.95%</td>
<td>0.30</td>
<td>[-0.18, 0.79]</td>
</tr>
<tr>
<td>Leung et al. [55]</td>
<td>4.84%</td>
<td>0.99</td>
<td>[0.49, 1.49]</td>
</tr>
<tr>
<td>Hahlweg et al. [51]</td>
<td>4.76%</td>
<td>0.77</td>
<td>[0.25, 1.28]</td>
</tr>
<tr>
<td>Sanders et al. [66]</td>
<td>4.65%</td>
<td>0.32</td>
<td>[-0.21, 1.28]</td>
</tr>
<tr>
<td>Whittingham et al. [24]</td>
<td>4.56%</td>
<td>0.96</td>
<td>[0.42, 1.50]</td>
</tr>
<tr>
<td>Matsumoto et al. [60]</td>
<td>4.49%</td>
<td>0.11</td>
<td>[-0.44, 0.66]</td>
</tr>
<tr>
<td>Matsumoto et al. [59]</td>
<td>4.40%</td>
<td>0.47</td>
<td>[-0.09, 1.03]</td>
</tr>
<tr>
<td>Wiggins et al. [23]</td>
<td>4.32%</td>
<td>0.56</td>
<td>[-0.01, 1.13]</td>
</tr>
<tr>
<td>Morawska et al. [63]</td>
<td>4.16%</td>
<td>1.11</td>
<td>[0.52, 1.71]</td>
</tr>
<tr>
<td>Turner et al. [67]</td>
<td>3.91%</td>
<td>0.20</td>
<td>[-0.44, 0.84]</td>
</tr>
<tr>
<td>Joachim et al. [54]</td>
<td>3.87%</td>
<td>0.74</td>
<td>[0.10, 1.38]</td>
</tr>
<tr>
<td>Markie-Dadds &amp; Sanders [57]</td>
<td>3.87%</td>
<td>1.13</td>
<td>[0.49, 1.77]</td>
</tr>
<tr>
<td>Gallart &amp; Matthey [26]</td>
<td>3.58%</td>
<td>0.74</td>
<td>[0.04, 1.43]</td>
</tr>
<tr>
<td>Markie-Dadds &amp; Sanders [56]</td>
<td>3.46%</td>
<td>1.08</td>
<td>[0.36, 1.79]</td>
</tr>
<tr>
<td>Turner &amp; Sanders [68]</td>
<td>3.11%</td>
<td>-0.08</td>
<td>[-0.87, 0.70]</td>
</tr>
<tr>
<td>Martin &amp; Sanders [58]</td>
<td>2.97%</td>
<td>1.02</td>
<td>[0.21, 1.84]</td>
</tr>
<tr>
<td>Hoath &amp; Sanders [53]</td>
<td>2.62%</td>
<td>0.58</td>
<td>[-0.32, 1.48]</td>
</tr>
<tr>
<td>Connell et al. [50]</td>
<td>2.18%</td>
<td>2.27</td>
<td>[1.24, 3.29]</td>
</tr>
</tbody>
</table>

RE Model: ![Graph showing 100.00% with CI range: 0.60 [0.43, 0.78] with standardized mean difference scale -1.00 to 3.00]

What if these were trials of homeopathy?
Statistical change doesn’t imply causation
Not even with an RCT!
(Clarke, Gillies, Illari, Russo, & Williamson, 2013)

RWT. In order to establish that $A$ is a cause of $B$ in medicine one normally needs to establish two things. First, that $A$ and $B$ are suitably correlated—typically, that $A$ and $B$ are probabilistically dependent, conditional on $B$’s other known causes. Second, that there is some underlying mechanism linking $A$ and $B$ that can account for the difference that $A$ makes to $B$. 
Discuss: do you believe this?
Which theory of mechanism? (Fonagy and Clark, 2015)

Contrary to this statement, there is evidence in all anxiety disorders that some psychological treatments are more effective than others. In depression, the picture is less clear. Several psychological therapies have been shown to be better than placebo or no treatment, but there is little evidence of differential effectiveness between these therapies. However, there is no such thing as a therapeutic alliance therapy. Even if therapeutic alliance were the most important factor, one would still need to train therapists in procedures that allow the therapeutic alliance to emerge.
A glimpse of the evidence

... but they’re rare and expensive to find (e.g., $1\,1,760,874 NIMH grants \rightarrow 1 \text{ difference})
“Relying on brand names of therapy can be misleading…” (Ablon & Jones, 2002)
<table>
<thead>
<tr>
<th>Therapeutic technique</th>
<th>Problem origin</th>
<th>Procedure</th>
<th>Putative mechanism of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure</td>
<td>Learning, typically in childhood (traumatic, observational, information transmission)</td>
<td>Heighten emotion with relevant object/situation in therapist’s presence</td>
<td>Extinction Relearning Coping</td>
</tr>
<tr>
<td>Transference</td>
<td>Childhood experience in relation to significant others</td>
<td>Heighten emotional reaction to therapist as object</td>
<td>Working through to realistic perception of therapist</td>
</tr>
<tr>
<td>Challenging dysfunctional assumptions</td>
<td>Childhood experience in relation to significant others</td>
<td>Heighten emotion to person, situation or object</td>
<td>Reinterpret Reconstruct</td>
</tr>
</tbody>
</table>
The statistical evidence in one slide

Contextual model factors

Specific factors

Effect size

Goal consensus/collaboration  Empathy  Alliance  Positive regard/affirmation  Therapists (naturalistic)  Congruence/genuineness  Therapists (RCTs)  Cultural adaptation of EBT  Expectations  Treatment differences  Rated competence  Adherence to protocol  Specific ingredients

Levels of explanation
(Sun, Coward and Zenzen, 2005)

A New Hierarchy of Four Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Object of Analysis</th>
<th>Type of Analysis</th>
<th>Computational Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>inter-agent processes</td>
<td>social/ cultural</td>
<td>collections of agents</td>
</tr>
<tr>
<td>2</td>
<td>agents</td>
<td>psychological</td>
<td>individual agents</td>
</tr>
<tr>
<td>3</td>
<td>intra-agent processes</td>
<td>componential</td>
<td>modular construction of agents</td>
</tr>
<tr>
<td>4</td>
<td>substrates</td>
<td>physiological</td>
<td>biological realization of modules</td>
</tr>
</tbody>
</table>
Mechanisms as accessible person-level attitudes, beliefs, narratives, ...

... you pile them up and pile them up. That’s what it was like with all my problems, dealing with them one bit at a time, but like talking to the counsellor, I was able to take one off at a time. (Client 5)

It’s like something’s just burst. You know how you get people who are really angry and then one day it’s going to burst? But it’s good to like get stuff out, so I wouldn’t burst. (Client 2)

Lynass et al. (2012)
Usual caveat...

Telling More Than We Can Know: Verbal Reports on Mental Processes

Richard E. Nisbett and Timothy DeCamp Wilson
University of Michigan

Evidence is reviewed which suggests that there may be little or no direct introspective access to higher order cognitive processes. Subjects are sometimes (a) unaware of the existence of a stimulus that importantly influenced a response, (b) unaware of the existence of the response, and (c) unaware that the stimulus has affected the response. It is proposed that when people attempt to report on -
Mechanisms as chains of psychological and other dimensions

Hahn et al. (2016)
Example: Interpersonal problems (Lipsitz & Markowitz, 2013)

Fig. 1. IPT model of interpersonal problems as precipitating and maintaining factors in psychopathology.
Example: Interpersonal problems (Lipsitz & Markowitz, 2013)

Fig. 2. Hypothesized interpersonal change processes and mechanisms in IPT.
Rogers’ (1957) conditions for “constructive personality change”

therapist and client are in a relationship whereby

the therapist...

is genuine, “the opposite of presenting a façade”
has warm “unconditional positive regard” for client
empathises with client’s (awareness of their) private world

the client...

experiences gap between desired and perceived-self
experiences therapist as accepting and empathic

And then...?
For the practice of psychotherapy the theory also offers significant problems for consideration. One of its implications is that the techniques of the various therapies are relatively unimportant except to the extent that they serve as channels for fulfilling one of the conditions. In client-centered therapy, for example, the technique of “reflecting feelings” has been described and commented on (6, pp. 26–36). In terms of the theory here being pre-

An activity that “results in an increase in something healthy or a decrease in something unhealthy” (p.60)
Discuss: think about your practice – what’s missing in these theories?
Table 1.1 Rationale for multi-family therapy (MFT)

- **Creating solidarity:**
  ‘We are all in the same boat.’

- **Overcoming stigmatization and social isolation:**
  ‘We are not the only ones with these problems.’

- **Stimulating new perspectives:**
  ‘I can see clearly those things in them for which, when it comes to us, I am blind.’

- **Learning from each other:**
  ‘I like the way others manage this.’

- **Being mirrored in others:**
  ‘We do this just like you.’

- **Positive use of group pressure:**
  ‘We can’t cop out.’

...

(Asen & Scholz, 2010)
What (evidence) works for whom?

HM Treasury

£107 billion

Department of Health

£96 billion

NHS England

£64 billion

Clinical Commissioning Groups

Centrally managed projects and services

Arms Length Body funding

Public health spending

Nationally commissioned services

Locally commissioned services

People using services
95% feel better
JOIN US! 12PM SAT 9TH JULY, HACKNEY TOWN HALL

HACKNEY COUNCIL IS SET TO LOSE 915 SOCIAL HOMES IN REGENERATION DISASTER, WHILST MANY WOMEN FACE HOMELESSNESS

@SistersUncut
Subtypes of ED (N=574,720†)

- Anorexia nervosa
- Bulimia nervosa
- EDNOS

Adjusted hazard ratio (95%CI)

Parental education (Goodman, Heshmati, & Koupil, 2014)
Outcomes in practice

The measurement and stats are easy

(Though expensive to implement properly)

Real challenge:

applied psychosocial theories of mechanism

a.fugard@ucl.ac.uk

@inductivestep