

The Great Divide

Bridging the gap between
cognitive science and clinical
psychology

Overview

- What is the problem?
- Bulimia
- Sexual Coercion
- References

What is the problem?

- Clinical psychologists often use the word cognitive...
 - There is very little relationship to this use and the actual work being done on cognition.
(McFall, et al. 1997)
- Conclusion: there is much research being done in both clinical psychology and cognitive science, yet there is little common ground.

Yikes...

- This is very unfortunate:
 - Clinical research is primarily designed for both treating and preventing psychopathology (Treat et al. 2001)
 - This goal could be much easier to reach if researchers would stop basically ignoring everything cognitive science is learning about cognition!

All is not lost

- Although this problem is very wide-spread, it is not universal.
- Several researchers from both sides are working together to try to resolve this issue.
- Cognitive Science:
 - Nosofsky, Robert
 - Townsend, James
 - MacKay, David
- Clinical Psychology:
 - McFall, Richard
 - Treat, Teresa
 - Viken, Richard

Bulimia

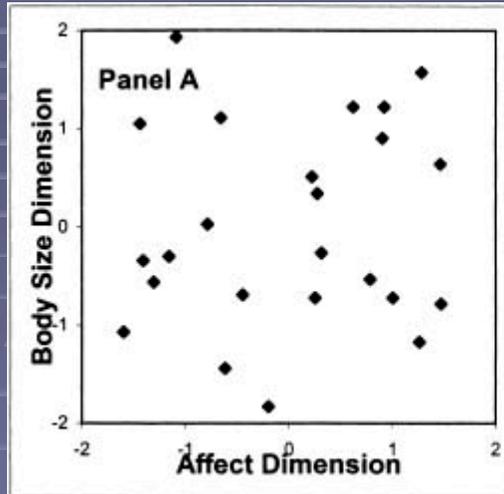
- Much of Bulimia research is based on self-report measures.
 - There is evidence of contamination of the measures
 - Many theories of psychopathology stress that negative self-image or negative affect operate at least partially outside conscious awareness (Viken et al. 2002)

Bulimia...

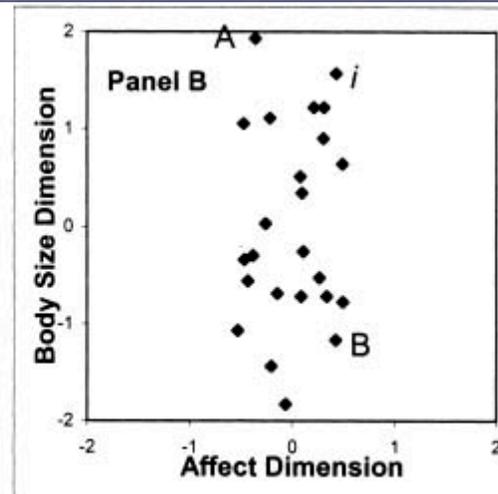
- Solution lies in performance based methods of evaluation.
 - Simple:
 - Stroop task
 - Dichotic listening task
 - Complex:
 - Multidimensional Scaling (MDS)
 - MDS is used to plot a kind of map of the psychological space between two dimensions

MDS

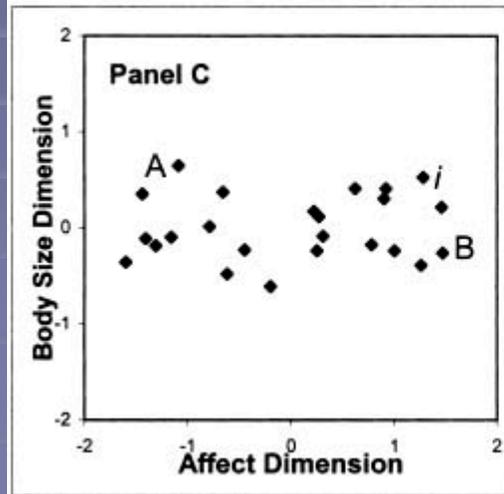
Panel A-
hypothetical
spread
showing no
preference



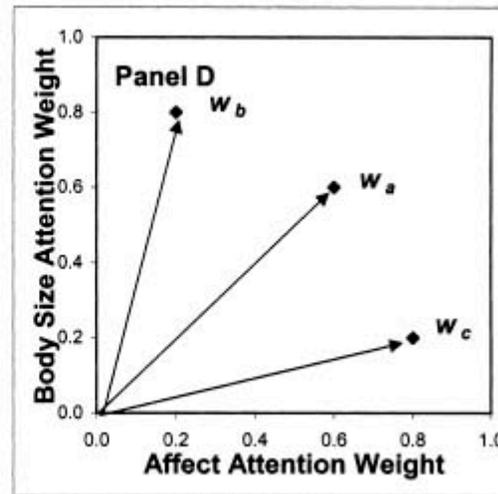
Panel B-
Hypothetical
spread
showing an
orientation
towards
facial affect



Panel C-
Hypothetical
spread
showing an
orientation
towards
body size



Panel D-
Three subjects
attention/weight
vectors
(hypothetical)



Sexual Coercion

- Most current sexual coercion studies suffer from two problems
 - Sample
 - Self-Report
- Cognitive science can address both of these problems.
 - Sample- use signal detection theory (SDT) to establish a continuum of subjects to analyze individual differences in subjects
 - Self-report- use MDS techniques to determine the orientation of these different groups

SDT

- Developed to help the navy train submarine radio-operators...
- Basic treatment:
 - When a radar blip is detected, an operator must decide if it is an enemy sub (should be attacked) or just noise (can safely be ignored).
 - When the operator decides to ignore a blip and it is a sub, this is called a MISS
 - When the operator decides to shoot the blip and it is just noise, this is called a FALSE ALARM
 - False alarms and misses vary in severity.
 - For example, if the torpedoes fired are very costly and dangerous; it could be better to be destroyed than to shoot at noise (ie false alarm > miss)
 - But more likely, it is more important to hit every enemy than it is to not be wasteful (ie miss > false alarm)

SDT in sexual coercion (an example)

- Male subjects shown many pictures of women.
- Women are either sexually interested or just being friendly
- The subject has to choose if the woman is showing interest.
- Therefore:
 - miss = woman is sexually interested, and subject reports she is friendly
 - false alarm = woman is friendly, and subject reports she is sexually interested.

An example, in production...

- A continuum is created:
 - On one side, subjects show more inclination to miss than false alarm.
 - Perhaps these subjects have more trouble meeting women, are shyer, have less dating experience
 - On the other extreme, subjects show more inclination to false alarm, than to miss.
 - Perhaps these subjects are more aggressive, have more experience, and correlate to sexual coercion and sexual aggression.

Results

- If the hypothesis is accurate, these SDT continuums could be paired with an MDS measure as well as with traditional self-report questionnaires.
- This could lead to new ways of understanding, and even preventing sexual coercion.
- This would be an experiment that would be combining both cognitive science and clinical psychology to generate fascinating new data.

References

- McFall, Richard, Treat, Teresa A, & Viken, Richard J. *Contributions of cognitive theory to new behavioral treatments*. Psychological Science. Vol 8(3), 1997. 174-176.
- Treat, Teresa A, et al. *Using cognitive science methods to assess the role of social information processing in sexually coercive behavior*. Psychological Assessment. Vol 13 (4), 2001. 549-565.
- Treat, Teresa A, et al. *Assessing clinically relevant perceptual organization with multidimensional scaling techniques*. Psychological Assessment. Vol 14(3), 2002. 239-252
- Viken, Richard J, McFall Richard, *Paradox lost: Implications of contemporary reinforcement theory for behavior therapy*. Current Directions in Psychological Science Vol 3(4) 1994, 121-125.
- Viken, Richard J et al. *Modeling individual differences in perceptual and attentional processes related to bulimic symptoms*. Journal of Abnormal Psychology. Vol 111(4), 2002. 598-609.