Table DS1 Jumping to conclusions

Search Terms: "Jump to conclusions" + "delusions" (ISI and Pubmed)/ "Jump to conclusions" + "Schizophrenia" (ISI and Pubmed)/ "Jump to conclusions" + "Psychosis" (ISI and Pubmed)/ "Jump to conclusions" + "paranoia" (ISI and Pubmed)

Review Articles: Garety and Freeman (1999)/ Freeman (2007)/Dudley & Over (2003)/Bentall & Taylor (2006)/Fine et al (2007)

Early View articles: Schizophrenia Bulletin; Schizophrenia Review; British Journal of Clinical Psychology; Behaviour Research and Therapy; Journal of Behavioural Research and Experimental Psychological Medicine; Journal of Abnormal Psychology

Table DS1a Clinical Studies of JTC using beads task or variants

Study	Participant Groups	Task	Jumping to Conclusions associated with delusions/ psychosis
1. Brankovic & Paunovic (1999)	29 Paranoid schiz. (currently deluded) 16 Schiz in remission 31 Anxious controls 35 Non-clinical controls	75:25 beads ratio	
2. Conway et al (2002)	10 Delusional disorder 10 Non-clinical controls	85:15 Beads ratio	1
3. Freeman, Garety, Fowler, Kuipers, Bebbington & Dunn (2004)	48 Delusions (No alternative explanation) 17 Delusions (Alternative explanation)	85:15 Beads ratio 60:40 Beads ratio 60:40 Emotionally salient	✓
4. Garety et al (2005)	100 Delusion patients	85:15, Beads ratio 60:40 Beads ratio 60:40 emotionally salient	✓ ·
5. Moritz & Woodward (2005)	17 Schiz. with delusions 14 Schiz no current delusions 28 Psychiatric controls 17 Non-Clinical controls	90:10 Beads ratio (prob. est. And DTD variant) 80:20 beads ratio (disconf. bias variant)	/
6. Fraser, Morrison & Wells (2006)	15 Persecutory delusions 15 Panic disorder	60:40 neutral 60:40 emotionally salient 60:40 panic words	X

	15 Non-clinical controls		
7. Menon, Pomarol-Clotet, McKenna,	Study 1	85:15 beads ratio	
McCarthy (2006)	18 Deluded schiz.	60:40 beads ratio	Χ
	15 Non-deluded schiz.		
	18 Non-clinical control	60:40 neutral words	
	Study 2	60:40 emotionally salient words	✓
	16 Deluded schiz.		
	15 Non-deluded schiz.		
	16 Non-clinical control		
8. Moore & Sellen (2006)	Computer simulated	85:15 beads ratio	
	performance model	60:40 beads ratio	
9. Peters & Garety (2006)	23 Delusions	85:15 Beads ratio	✓
	22 Psychiatric controls		
	36 Non-clinical controls		
10. Van Dael et al (2006)	40 Schiz	85:15 Beads ratio	✓
	40 1 st degree relatives		
	41 Non-clinical with		
	Psychotic experiences		
	53 Non-clinical controls		
11. McKay, Langdon & Coltheart (2007)	11 Persecutory	85:15 beads ratio	X
	delusion patients		
	11 Persecutory		
	delusions in remission		
	19 Non-clinical controls		
12. Moritz, Woodward & Lambert (2007)	37 Schiz. Patients	80:20 beads ratio	
	(22 paranoid delusion)	90:10 beads ratio	✓
	37 Non-clinical controls		
13. Warman, Lysaker, Martin, Davis,	38 Schiz. patients with	60:40 beads ratio	✓
Haudenschield (2007)	delusions	60:40 emotionally salient words	
	30 Delusion prone non-		
	clinical		

	30 Non-clinical controls		
14. Brakoulias, Langdon, Sloss, Coltheart,	16 Delusional patients	5:1 beads ratio	X
Meares & Harris (2008)			
15. Corcoran, Rowse, Moore, Blackwood,	39 Schiz. spectrum,	60:40 beads	✓
Kinderman, Howard, Cummins & Bentall	current persecutory	60:40 emotionally salient	
(2008)	delusions		
	29 Schiz. Spectrum,		
	remitted persecutory		
	delusions		
	20 Major depression		
	with persecutory		
	delusions		
	27 Major depression		
	controls		
	33 Non-clinical controls		
16. Ellett, Freeman & Garety (2008)	30 Persecutory	60:40 beads ratio	✓
	delusions		
	15 Urban exposure		
	15 Mindfulness task		
	30 Non-clinical controls		
17. Menon, Mizrahi & Kapur (2008)	19 Schiz. Spectrum first	60:40 beads	
	episode with delusions	60:40 emotionally salient stimuli	
18. Peters, Thortnton, Siksou, Linney &	21 Patients with	85:15 beads ratio	✓
MacCabe (2008)	psychosis diagnosis and	Wason's 2-4-6 Task	
	delusions		
	16 Non-deluded		
	patients with psychosis		
19. So, Freeman & Garety (2008)	30 First episode	85:15 beads ratio	✓
	psychosis with delusion	60:40 beads ratio	
	15 Anxiety induction		
	15 Anxiety reduction		
	30 Non-clinical controls		
	15 Anxiety induction		
	15 Anxiety reduction		

	(Chinese sample)		
20. Startup, Freeman & Garety (2008)	28 Patients with	60:40 beads	✓
	psychosis and		
	persecutory delusions		
	30 Non-clinical controls		
21. Bentall, Rowse, Shryane, Kinderman,	39 Schiz spectrum	60:40 beads	✓
Howard, Blackwood, Moore & Corcoran	paranoid delusions	60:40 emotionally salient stimuli	
(2009)	29 Late onset psychosis		
	>65yr with paranoid		
	delusions		
	29 Schiz spectrum		
	remitted		
	20 Comorbid		
	depression and		
	psychosis with paranoid		
	delusions		
	27 Early onset <65yr		
	depressed		
	29 Late onset >65yr		
	depressed		
	33 <65 Healthy control		
	31 >65 Healthy control		
22. Roiser, Stephan, den Ouden, Barnes,	20 first episode patients	60:40 Beads task	X
Friston & Joyce (2009)	with schiz spectrum		
	13 Delusional		
	17 Non-clinical controls		
23. Woodward, Mizrahi, Menon &	46 Schizophrenic	60:40 beads ratio	
Christensen (2009)	patients	60:40 emotionally salient stimuli	
		(survey)	
24. Woodward, Muntz, LeClerc & Lecomte (2009)	19 Delusions	60:40 Fish in lake ratio	✓
25. Colbert, Peters & Garety (2010)	17 1 st /2 nd episode of	85:15 beads ratio	X
	psychosis and current	60:40 emotionally salient stimuli	
	delusions		

	17 1 st /2 nd episode of psychosis and remitted delusions		
	35 Non-clinical controls		
26. Freeman, Pugh, Vorontsova, Antley &	30 Non-clinical (Low	60:40 beads ratio	✓
Slater (2010)	paranoia)		
	30 Non-clinical (High		
	paranoia)		
	30 Schiz spectrum with		
	persecutory delusions		
27. Langdon, Ward & Coltheart (2010)	35 Schiz. Spectrum	85:15 beads ratio	✓
	Patients		
	30 current delusions		
	5 history of delusions		
	34 Healthy controls		
28. Lincoln, Ziegler, Mehl & Rief (2010)	71 Schiz. spectrum	80:20 Beads ratio	✓
	44 Acute delusions	60:40 Beads ratio	
	27 Delusion history	Gambling condition (60:40 ratio)	
	68 Non-clinical controls	After-Feedback condition (60:40)	
29. Moritz, Veckenstedt, Hottenrott,	56 Schiz. Spectrum	80:20 Fish ratio	
Woodward, Randjbar & Lincoln (2010)	patients		
	(current/history of		
	delusions)		
30. Speechley, Whitman & Woodward	5 Schiz spectrum with	Fishing task – Ratios varied during	
(2010)	delusions	task	
	25 Schiz. Spectrum -		
	nondelusional		
	37 Bipolar Disorder		
	35 Non-clinical controls		
31. Dudley, Shaftoe, Cavanagh, Spencer,	74 First episode	85:15 beads ratio	X
Ormrod, Turkington & Freeston (2011)	psychosis	60:40 beads ratio	
	25 Current delusions		
	49 No current		

	delusions		
32. Falcone et al (2011)	130 First episode	85:15 beads ratio	✓
	psychosis	60:40 beads ratio	
	105 Non-clinical		
	controls		
33. Menon, Addington & Remington (2011)	18 Schiz. Spectrum	60:40 Beads ratio	X
	Patients with delusions	60:40 Emotionally salient	
	of reference)		
	17 Non-clinical controls		
34. Ross, Freeman, Dunn & Garety (2011)	34 Schiz. spectrum –	60:40 beads ratio	✓
	currently delusions	85:15 beads ratio	
	17 Reasoning training		
	17 Attention control		
	34 Non-clinical controls		
35. Waller, Freeman, Jolley, Dunn & Garety	13 psychosis patients	60:40 beads ratio	
(2011)	(delusional)	+Maudsley Review Training	
		Programme	
36. Jacobsen, Freeman & Salkovskis (2012)	32 OCD patients	85:15 beads ratio	
	16 High conviction	60:40 beads ratio	✓
	16 Low conviction	60:40 words ratio	
	16 Schiz spectrum with	(neutral/carelessness/social	
	delusions	evaluation)	
	16 Non-clinical controls		
37. So, Freeman, Dunn, Kapur, Kuipers,	273 Delusion patients	85:15 beads ratio	
Bebbington, Fowler & Garety (2012)	(12 month longitudinal)	60:40 beads ratio	
		60:40 emotionally salient	
38. Jolley, Garety, Bebbington, Dunn,	60 Psychosis patients	85:15 beads ratio	✓
Freeman, Kuipers, Fowler & Hemsley (in		60:40 beads ratio	
press)		60:40 Emotionally salient (survey)	

Note: Cells left blank where the study did not report investigating an association of JTC data gathering with delusions/psychosis.

Table DS1b Non-Clinical Studies of JTC using beads task or variants

Study	Participant Groups	Task	Association of Jumping to Conclusions with delusional ideation Draws to decision
39. Colbert & Peters (2002)	17 Non-clinical (High in delusional ideation) 17 Non-clinical (Low in delusional ideation)	85:15 Beads ratio	√
40. Freeman, Garety, Bebbington et al, 2005, (2008)	30 Non-clinical	85:15 Beads ratio	x
41. McKay, Langdon & Coltheart (2006)	58 Non-clinical undergraduates	85:15 beads ratio	✓
42. Warman & Martin (2006)	200 Non-Clinical undergraduates	85:15 beads ratio 85:15 emotionally salient words	✓
43. Broome, Johns, Valli, Woolley, Tabraham, Brett, Valmaggia, Peters, Garety & MacGuire (2007)	35 High risk of psychosis 23 Non-clinical controls	85:15 beads ratio 60:40 beads ratio 44:28:28 beads ratio	✓
44. Freeman, Pugh & Garety (2008)	200 Non-clinical participants	60:40 beads ratio	√
45. Warman (2008)	35 Non-clinical (delusion prone) 35 Non-Clinical (non- delusions prone)	60:40 beads ratio 60:40 Emotionally salient	X
46. Ziegler, Rief, Werner, Mehl & Lincoln (2008)	85 Non-clinical undergraduates	80:20 beads ratio Word task – hints to guess a word Letter task – shown portions of a letter until sure Weight task –	(✓)

		compare until 2	
		weights the same	
47. White & Mansell (2009)	17 Delusion prone	85:15 beads ratio	
47. White & Mansen (2009)	•		✓
	undergraduates	60:40 beads ratio	
	22 Non-clinical control	44:28:28 beads	
	undergraduates	ratio	
		90G:10B/50G:50B/	
		90B:10G/90Y:10B	
		beads ratio	
48. Bensi, Giusberti, Nori & Gambetti (2010)	140 Non-clinical	80:20 Beads ratio	✓
		60:40 Beads ratio	
49. Lincoln, Lange, Burau, Exner & Moritz (2010)	90 Non-clinical	80:20 Fish ratio	✓
	45 Anxiety induction		
	45 No anxiety		
	induction		
50. Keefe & Warman (2011)	133 Non-clinical	60:40 beads ratio	(✓)
	undergraduates	Stress induction	
51. Lee, Barrowclough & Lobban (2011)	189 Non-clinical	80:20 emotionally	✓
	93 Positive mood	salient stimuli	
	induction	Positive mood	
	96 Neutral Mood	induction	
52. Lincoln, Salzmann, Ziegler & Westermann (2011)	92 Non-clinical	Social reasoning	✓
	(High/medium/low	task (gather pieces	
	paranoia)	of information	
		about situation to	
		make a decision)	
53. Rodier, Prevost, Renoult, Lionnet, Kwann, Dionne-Dostie,	80 Non-clinical	85:15 Beads ratio	✓
Chapleu & Debruille (in press)	participants		-

Table DS1c Other Probabilistic Reasoning Tasks

Study	Participant Groups	Task	Association of reasoning/ Jumping to Conclusions-type bias with delusions/ psychosis	Comments
54. Moritz & Woodward (2004)	29 Schiz. Patients (21 High delusions) 28 Non-clinical controls	Thematic Apperception Task		Patients rate both likely and unlikely explanations as high probability compared to controls
55. Merrin, Kinderman & Bentall (2007)	24 Persecutory delusions 24 Depressed patients 24 Non-clinical controls	20 Questions task	/	Persecutory delusions < depressed < controls
56. Glockner & Moritz (2009)	37 Schizophrenic 30 Non-clinical controls	Oranges/Suspects choices – Pick 1/3 choices based on varying certainty	X, ✓	Data gathering bias not observed Bias was observed in "absolutely certain" ratings of answers. Evidence of a negative correlation between information gathering and PANSS delusion subscale
57. Moritz, Veckenstedt, Randjbar, Hottenrott, Woodward, Eckstaedt, Schmidt, Jelinek & Lincoln (2009)	27 Schiz. Patients 32 Non-clinical controls	Paintings + real/lure names + anxiety evoking music	(✓)	Patients (esp. with delusions) more likely to make decisions and judge names as more plausible. Also made more decisions when exposed to anxiety evoking music.
58. Aghotor, Pfueller, Moritz,	30 Schiz. Patients	BADE procedure		Metacognitive training

	T	Ι, , , , , , , , , , , , , , , , , , ,		
Weisbrod & Roesch-Ely	15 MCT	(use of ambiguous		reduced both delusional
(2010)	15 No treatment	pieces of		symptoms and JTC at
		information about		trend level
		a situation)		
59. Galbraith, Manktelow &	35 Low delusion-prone	Inductive reasoning		Delusion prone
Morris (2010)	(Non-clinical)	task (aggressive/		participants less likely to
	35 High delusion-prone	nonaggressizve		take sample size into
	(Non-clinical)	versions): Sample		account when judging
		size 1		likelihood of
		Sample size 3		heterogeneity of new
		Sample size 20		information.
60. Moritz, Schilling,	20 Borderline	Cognitive Biases	✓	No delusional data for
Wingenfeld, Kother,	personality disorder	Questionnaire for		patient group.
Wittekind, Terfehr &	20 Non-clinical controls	psychosis (CBQp)		
Spitzer (2011)				
61. Veckenstedt, Randjbar,	55 Schiz. (32 current	BADE procedure	(✓)	Significant differences
Vizthum, Hottenrott,	delusions)	(judgements based		between schiz. and
Woodward & Moritz	20 OCD	on sentences		control groups – but no
(2011)	30 Non-clinical control	disambiguating a		significant differences in
		situation)		reasoning between
				deluded and non deluded
				patients.

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<u>Jumping to Conclusions – Other Probabilistic Reasoning Tasks</u>

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