The PRL Autoganzfeld revisited: refuting the sound leakage hypothesis.

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Abstract

Internal patterns in the PRL AutoGanzfeld database may shed some light on the plausability of that hypotheis. This hypothesis would predict stronger effects for sessions where the subject is not sure about his ratings because in those sessions the experimenter may be able to influnece him/her into another direction. A secodary analysis where the scoring in sessions with an extreme rating is compared with the scoring in sessions with a lower rating shows the oppposite trend. Therefore it can be concluded that this pattern does not support the auditory sound leakage hypothesis.

Introduction

The PRL Auto Ganzfeld database, which is available for serious independent researchers, is a rich source for secondary analyses. In its original form it consists of 354 records each describing an individual session in the PRL Auto Ganzfeld series. Each record consists of 80 fields with information like the time, date, set, target, ratings, but also gender of 'sender', 'receiver and experimenter and lots of other dependent measures relating to the session, and the participants (see appendix)

In the course of the last few years a number of 'calculated' fields have been added. For instance, number of sessions per day was inferred from the time, date information.

A number of informal analyses resulted from questions that researchers in the field have asked. The results of these analyses were generally discussed within the context of the electronic discussion group 'PDL'. For instance it turns out that the PRL database did not support the often heard supposition that having more than 1 session per day is detrimental for the results. Also there appears to be suggestive indications for a gender interaction effect where female experimenters with male receivers produce the best results.

In this short contribution we will focus on an analysis that was done in order to see if the PRL database showed internal patterns that would support or contradict the sound leakage hypothesis put forward by Wiseman et al (Wiseman et al, 1994). The results of this analysis were communicated to Wiseman et al before they published their report but although they claim that .... *the likelyhood of potential non-psi explanations can also be assessed on the basis of whether they account for internal effects* .. (pg 450) they did not include these internal pattern figures in their report.

The sound leakage hypothesis

According to the sound leakage hypothesis, sound cues originating with the sender could have been perceived by the experimenter during an AGF session. The experimenter could have inferred the target from these cues and could subsequently have communicated this information to the 'receiver' during the judging phase of the experiment.
The authors conclude after an elaborate evaluation of the different acoustic pathways from sender to experimenter that within the actual situation *... it would have been almost impossible to concsiously detect sender noise. However, some studies concerned with auditory sensory subliminal perception suggest unconcsious registration ....*(pg. 449).
Thus the experimenter is supposed has not been explicitly aware of the target and it must be concluded that the influence that the experimenter must have excerted on the subjects choice has been also of a similar unconscious nature.
Experimenters directly involved in the AGF series have generally considered the sound leakage hypothesis as a ridiculous proposal. This feeling was partly beased on the informal qualitative evaluation of the quality of the hits. And indeed it is quite difficult to see how unconscious pressure by the experimenter on the receiver during judging would result in strong hits. Rather one would expect that unconscious pressure is most effective in cases where the subject is uncertain about how to rate his/her mentation against the targets.
Of course the informal impression by the experimenters involved in the PRL AGF series cannot count as a scientific argument therefore it was decided to evaluate the results of the PRL AGF series as a function of how well a subject felt one of the targets was fitting his/her mentation.

The ratings as indicator for a strong hit.

At the end of the judging procedure the subject is asked to give a rating from 1-40 for each of the possible targets. Although subjects surely differ in the interpretation of this scale it is obvious that if a subject gives the highest possible rating they are rather certain that they have identieifed the target. The following table gives the scoring percentages for the sessions where the maximum rating was a 40, was a 39 or was otherwise.

TABLE I: Scoring percentage for sessions with different maximum ratings

Maximum Rating	N	Hits	Percentage
< 39	240	80	33.3
39	32	11	34.4
40	82	31	37.8
TOTAL	354	122	34.5

It can be seen that in 82 sessions of the 354 the subject decided to give the maximum rating to one of the targets. In 31 cases this turned out to be the target. These sessions alone therefore were significant with a z-score of 2.4.

Discussion

Table I implies that a considearble number of hits were produced in sessions where the subject did consider his mentation to apply strongly to one of the targets. It can be argued that in tese sessions the sound leakage hypothesis seems extremely implausable. However in some cases subjects tend to give over-all high ratings e.g 37,38,39,and 40. In those cases the subject may be assumed not to be sure which one to choose and may have been subject to subtle unconscious influencing by the experimenter.

We therefore repeated the analysis only for the subset of trials where the variance in the 4 ratings is larger than 1 sd below the mean variance of the 4 ratings of the sessions.
This resulted in the following table:

TABLEII: Scoring percentage for sessions with different maximum ratings
for sessions with a large inter rating variance

Maximum Rating	N	Hits	Percentage
< 39	182	56	30.8
39	32	11	34.4
40	74	28	37.8
TOTAL	288	95	33

It can be seen that this does not change the over-all picture. The sessions with a maximum rating are still significantly above chance (z= 2.42)

References

Bem, D.J. & Honorton, C. (1994) Does Psi exist? Replicable evidence for an anomolous process of information transfer. *Psychological Bulletin*, **115** (1), 4-18.

Wiseman, R., Smith, M. & Kornbrot, D. (1994). Assessing possible sender-to-experimenter acoustic leakage in the PRL Autoganzfeld. In: D.J. Bierman (Ed.) *Proc. of the 37th PA Convention*, Amsterdam, 439-454.

APPENDIX

Fields in the original AutoGanzfeld database.

[R = Receiver; S = Sender; E = Experimenter]

1. Record# (1–354, sorted by Series and then within series by Session#)
2. Series# (1, 2, 3, 101, 102, 103, 104, 105, 201, 301, 302)
3. Session# (Chronologically sequenced within the series)
4. Date of session
5. Time session began (24-hour clock)
6. Chronological Seq# (Position of session in overall chronological order (1–354))
7. Receiver# (Males: 1–100; Females: 101–240)
8. R's Sex
9. Sender#
10. S's sex
11. S/R Relationship (F = Friend; LF = Lab Friend; L = Lab Assistant)
12. Experimenter# (1–8)
13. E's Sex
14. Target#
15. Target Name
16. Dynamic Target? (0 = Static; 1 = Dynamic)
17. Target Set#
18. Clip#1 (Numbered according to its position in the 160 clip target pool)
19. Clip#2
20. Clip#3
21. Clip#4
22. Target = Clip#n (1, 2, 3, 4)
23. Judging Sequence (1234, 2341, 3412, 4123)
24. Target's position within the judging sequence (1–4)

[Variables 25–37 constitute the main data from the session]

25. R1 (Raw rating given to Clip#1) (1–40)
26. R2
27. R3
28. R4
29. z1 (R1 converted to a z score, using the mean and sample SD of all 4 ratings)
30. z2
31. z3
32. z4
33. Raw Rating given to Target (1–40)
34. z score of Target
35. Rank given to Target (1–4)
36. Hit? (0 = miss; 1 = hit)
37. Judging Position selected (Highest Rating given to clip in judging position n (1–4))

[E1–E9 are 7-point ratings (0–6) made by E at the end of the mentation period]

38. E1: Amount of mentation
39. E2: Number of references to experimental situation during mentation
40. E3: R's task orientation
41. E4: Residue: references to memories

42. E5: Amount of judgeable content
43. E6: Noteworthiness—references to images being persistent or clear.
44. E7: Mundane to Bizarre quality of imagery
45. E8: Lability: Relative number of changes or transformations in mentation content
46. E9: E's expectation of success
47. R's estimate of the time spent in ganzfeld mentation
48. E's comments on the session
49. Prompted? (Did E point out correspondences to R during the judging? 0 = no; 1 = yes)
50. Light intensity on an arbitrary 100-point scale
51. White noise intensity on an arbitrary 7-point scale
52. AMOD? (Session conducted after the auditory modification made? 0 = no; 1 = yes)
53. Condition. Computer selected D or ND for session. Meaning unknown.
54. R Session#n (This is the receiver's nth ganzfeld session as a receiver)
55. Total number of sessions this R served as a receiver in entire database
56. S Session#n (This is the sender's nth ganzfeld session as a sender)
57. Total number of sessions this S served as a sender in entire database
58. E Session#n (This is the experimenter's nth session as an experimenter)
59. Total number of sessions this E served as experimenter in entire database
60. Target Occurrence#n (This is the nth appearance of this clip as the target)
61. Total number of sessions this target occurred as target in entire database

[The following information refers to the receiver]

62. PIF# (Personal Information Form number)
63. Age
64. Educational level
65. Degree of Belief in psi (1 = "Don't Believe" to 7 = "Believe Very Strongly")
66. Number of kinds of psi experiences reported (1 point for Clairvoyance, Telepathy, Precognition, PK)
67. Mental Discipline? (e.g., Meditation, Hatha Yoga, etc.) (0 = no; 1 = yes)
68. MBTI code (e.g., INTP)
69. EI score
70. SN score
71. TF score
72. JP score
73. Extravert? Derived from EI score above. (0 = no; 1 = yes)
74. Juilliard Student? (0 = no; 1 = yes)
75. Lucid Dreamer? (0 = no; 1 = yes)
76. Competitive? (1 = "Not Competitive" to 7 = "Highly Competitive")
77. Enjoys public performances? (1 = "Not at all" to 7 = "Very Much")
78. S aka R# (Sender also appears in the database as Receiver#)
79. E aka R# (Experimenter also appears in the database as Receiver#)
80. E aka S# (Experimenter also appears in the database as Sender#)