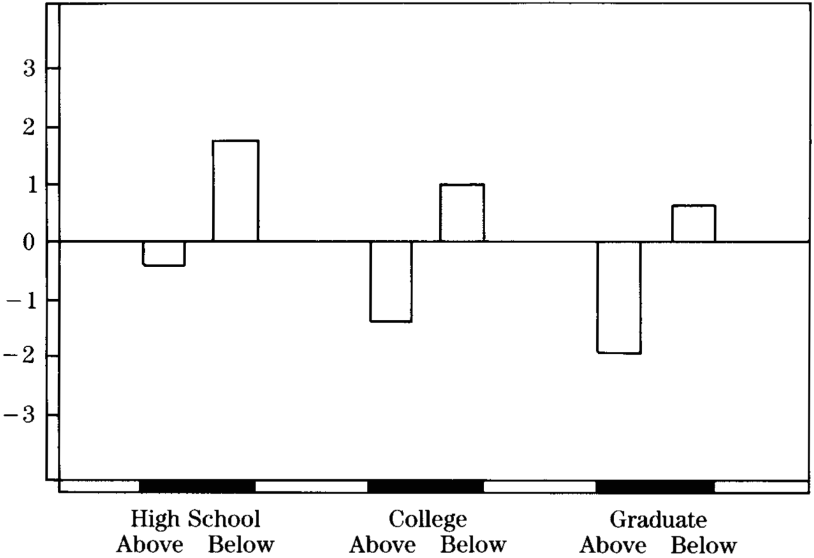

Figure 1.1 Changes in discrepancy scores in Experiment I.

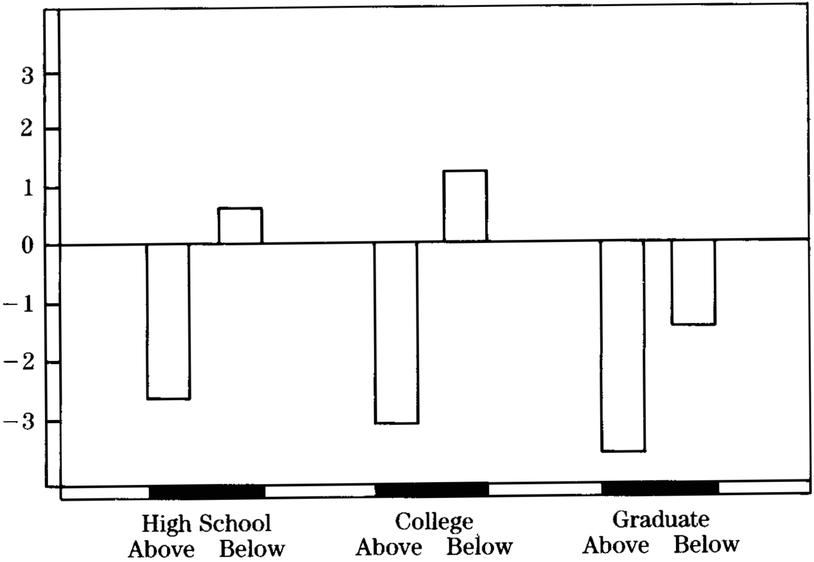

Figure 1.2 Changes in discrepancy scores in Experiment II.

Table 1.1 Change in Discrepancy Score from Session I to Session II (Experiment I)

Comparison Groups	Mean Perf. in Sess. I*	Mean Disc. Score Sess. I	Mean Disc. Score Sess. II	Mean Change Score	Value of "t"	Level of Sig. (Percentage)
Above H.S.	6.08	27	−.06	−.33	1.78	11
Below H.S.	6.57	−.53	1.23	1.77	5.07	1
Above coll.	7.68	.04	−1.34	−1.38	6.67	1
Below coll.	6.75	−.24	.77	1.01	4.53	1
Above grad.	6.52	1.19	−.83	−2.02	6.28	1
Below grad.	7.45	−1.65	−1.01	.64	1.31	25
Control high	6.48	.57	.24	−.33	1.85	10
Control low	6.97	−.46	−.27	.19	.98	45

All "t" tests beyond the 1-per-cent level of significance are simply marked 1 per cent. All the "t" tests in the above table are for 9 degrees of freedom, and a value of 3.25 is necessary for significance at the 1-per-cent level. All those which do not reach the 5-per-cent level are not regarded as significant.
*The performance in session II was experimentally kept at approximately the same level as in session I.

Table 1.2 Analysis of Variance of Groups by Positions on Absolute Changes in Discrepancy Scores (Experiment I)

	H.S.	Coll.	Grad.	Total	Mean
Above	.33	1.37	2.02	37.23	1.24
Below	1.76	1.01	.64	34.13	1.14
Total	20.92	23.85	26.59	GT = 71.36	
Mean	1.05	1.19	1.33	GM = 1.19	

GT × GM = 84.92

	SS	df	V
Between positions	.20	1	.20
Between groups	.83	2	.41
Remainders	20.26	2	10.13
Between cells	21.28	5	
Within cells	52.84	54	.98
Total	74.12	59	

$$\frac{\text{Remainder variance}}{\text{Within-cells variance}} = \frac{10.13}{.98} =$$ 10.34, for 2 and 54 degrees of freedom, significant at 1-per-cent level

The between-positions variance and the between-groups variance are not significant.

Table 1.3 Change in Discrepancy Score from Session I to Session II (Experiment II)

Comparison Groups	Mean Perf. in Sess. I	Mean Disc. Score Sess. I	Mean Disc. Score Sess. II	Mean Change Score	Value of "*t*"	Level of Sig. (Percentage)
Above H.S.	6.84	3.03	.35	−2.67	3.66	1
Below H.S.	5.54	.48	1.01	.53	2.01	9
Above coll.	7.53	2.32	−.81	−3.13	9.36	1
Below coll.	6.34	−.06	1.08	1.15	4.16	1
Above grad.	6.95	3.18	−.43	−3.60	4.77	1
Below grad.	6.33	2.63	1.12	−1.46	3.59	1
Control high	6.73	4.12	3.61	−.51	2.06	9
Control low	7.23	1.86	1.78	.07	.32	75

All "*t*" tests beyond the 1-per-cent level of significance are simply marked 1 per cent. All the "*t*" tests in the above table are for 9 degrees of freedom, and a value of 3.25 is necessary for significance at the 1-per-cent level. All those which do not reach the 5-per-cent level are not regarded as significant.

Table 1.4 Analysis of Variance of Groups by Positions on Absolute Changes in Discrepancy Score (Experiment II)

	H.S.	Coll.	Grad.	Total	Mean
Above	2.67	3.13	3.60	94.08	3.14
Below	.33	1.15	1.46	31.31	1.04
Total	32.02	42.81	50.56	GT = 125.39	
Mean	1.60	2.14	2.52	GM = 2.09	

GT × GM = 262.07

	SS	df	V
Between positions	65.68	1	65.68
Between groups	8.69	2	4.35
Remainder	.06	2	.03
Between cells	74.43	5	
Within cells	136.26	54	2.52
Total	210.69	59	

$$\frac{\text{Between-positions variance}}{\text{Within-cells variance}} = \frac{65.68}{2.52} = 26.07$$ for 1 and 54 degrees of freedom, significant beyond 1-per-cent level

$$\frac{\text{Between-groups variance}}{\text{Within-cells variance}} = \frac{4.35}{2.52} = 1.72$$ for 2 and 54 degrees of freedom, significant at 20-per-cent level

The interaction (remainder) variance is not significant.
The within-cells variance is used throughout as the error variance, since it is larger than the remainder variance.

Table 1.5 Changes in Success-Failure Ratings

	Rating in Sess. I	Rating in Sess. II	Change in Rating	Corresponding Change Score
Expect				
Above H.S.	−2.6	0	2.6	−.33
Below H.S.	−2.0	−3.2	−1.2	1.77
Above coll.	1.4	4.2	2.8	−1.38
Below coll.	−2.2	−3.6	−1.4	1.01
Above grad.	−.2	3.8	4.0	−2.02
Below grad.	−2.6	−.6	−2.0	.64
Like				
Above H.S.	−3.0	1.4	4.4	−2.67
Below H.S.	−1.2	−3.8	−2.6	.53
Above coll.	−3.2	2.4	5.6	−3.13
Below coll.	−1.6	−3.4	−1.8	1.15
Above grad.	.4	3.8	3.4	−3.60
Below grad.	−2.6	.4	3.0	−1.46

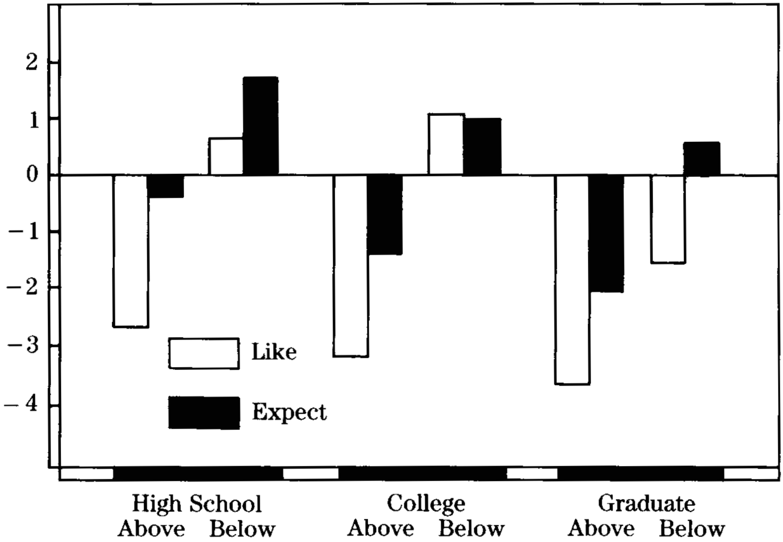

Figure 2.1 Changes in discrepancy score from first to second session.

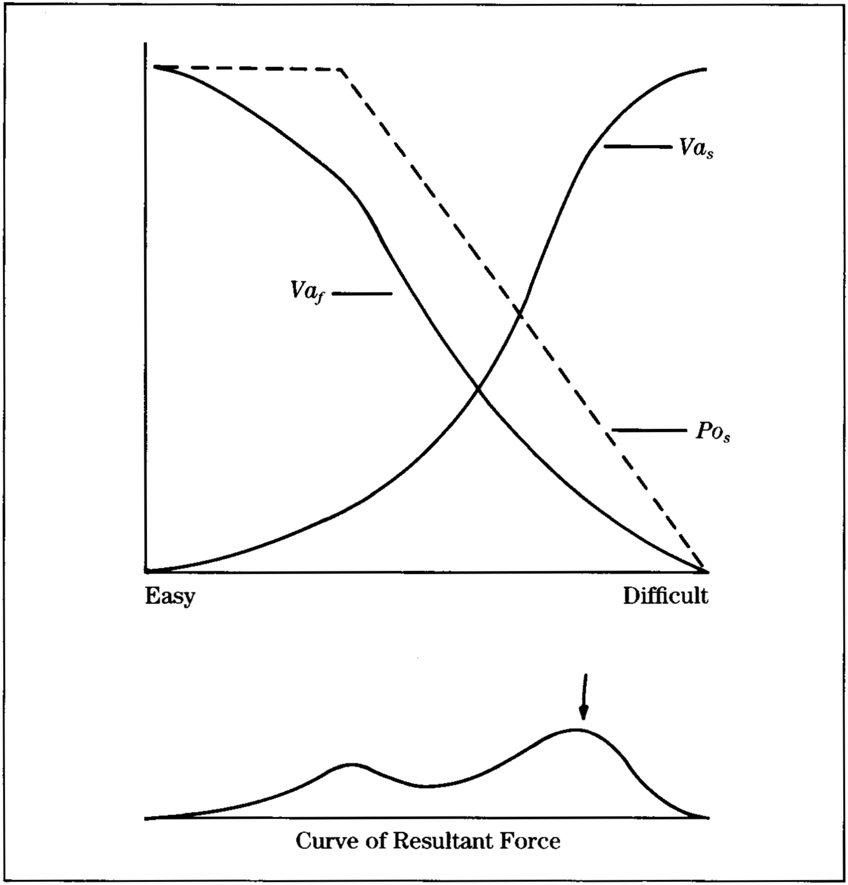

Figure 2.2 ***Derivation of the resultant force*** ($f^*_{P,L}$) ***from a set of valence and potency curves of given value.***

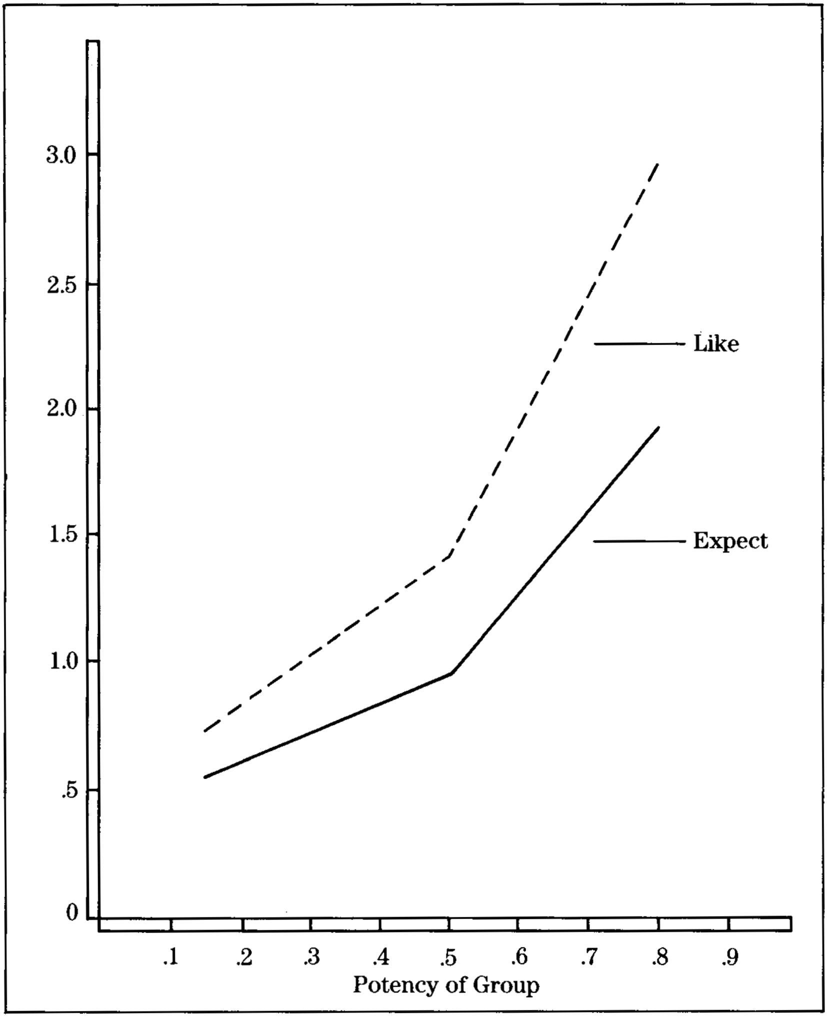

***Figure 2.3** Magnitude of change in discrepancy score as a function of the potency of the comparison group.*

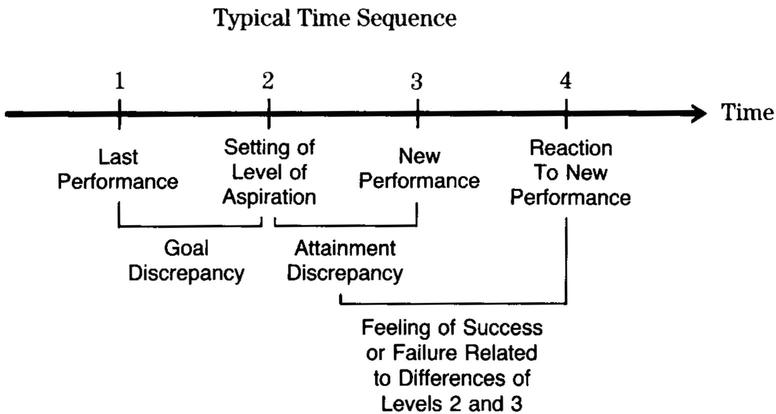

***Figure 3.1** Four main points are distinguished in a typical sequence of events in a level of aspiration situation: last performance, setting of level of aspiration for the next performance, new performance, and the psychological reaction to the new performance. The difference between the level of the last performance and the level of the new goal is called goal discrepancy; the difference between the goal level and that of the new performance is called attainment discrepancy. This difference is one of the bases of the reaction at the point 4.*

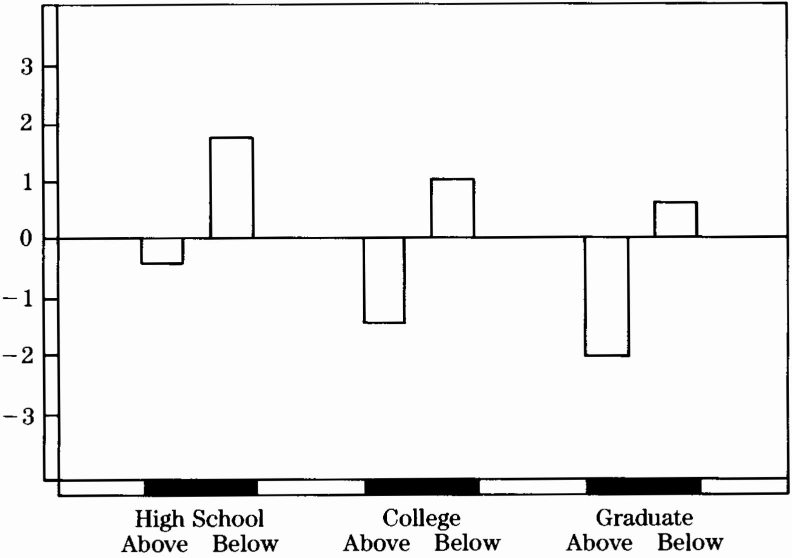

Figure 3.2 Changes in discrepancy score for college students compared to groups of low, medium, or high prestige.

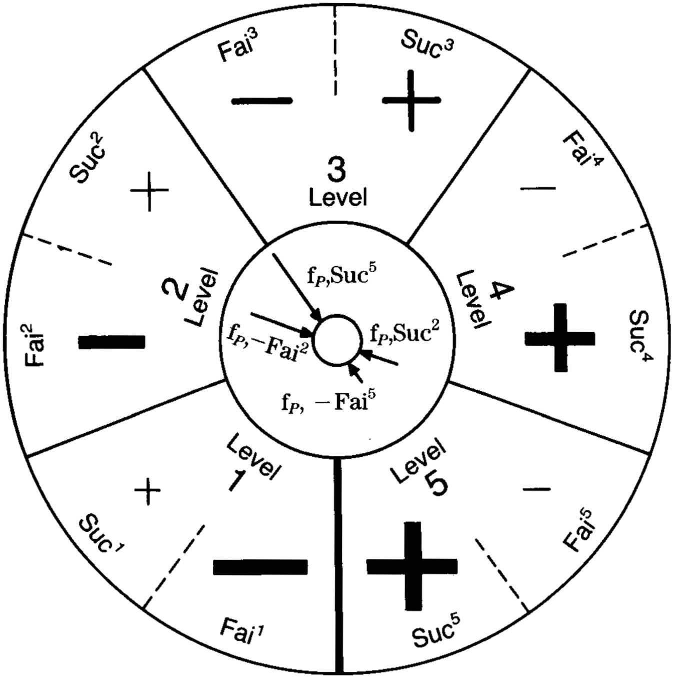

Figure 3.3 The difference in the attractiveness of the various difficulty levels 1 to 5 of the activity is determined by the valence of future success (SUC) *and failure* (FAI) *at that level. The valence of success increases, that of failure decreases with increasing difficulty level. Correspondingly the force toward success, for instance,* $f_{P,Suc}{}^5$ *is greater than the force* $f_{P,Suc}{}^2$ *on level 2. The force away from failure* $f_{P,-Fai}{}^5$ *is smaller than* $f_{P,-Fai}{}^2$. *Therefore, the total valence of the more difficult level is higher than the easier level.*

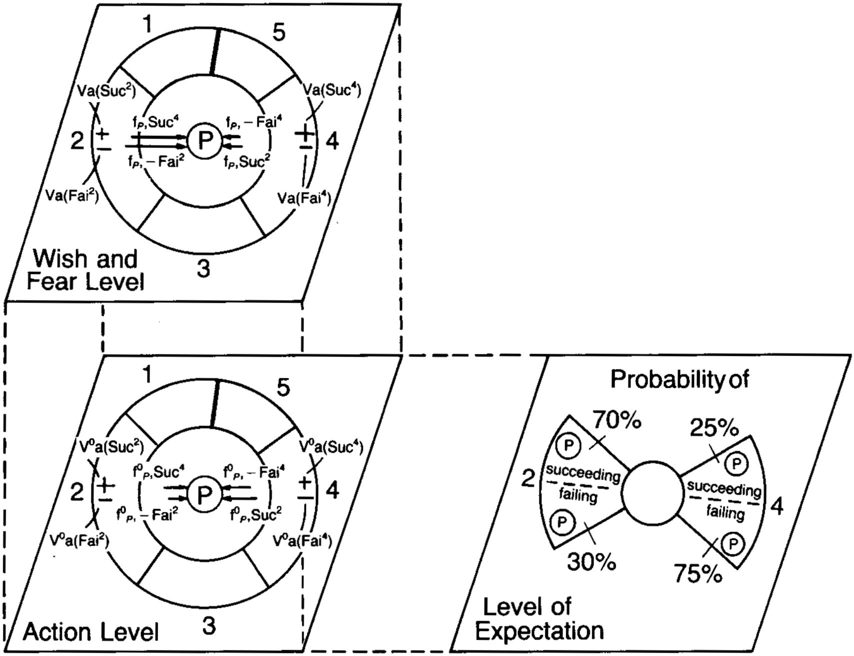

Figure 3.4 *Figure 3.3 takes into account the valences of success and failure but not the probability of the succeeding or failing at the various degrees of difficulty. Such a situation corresponds psychologically to a constellation which may exist on the "wish and fear level." The constellation of forces on the "action level" depends, in addition, on the individual's perception of the future, that is, the structure of the "level of expectation." Notice the difference in the direction of the resultant forces on the wish and on the action level.*

1, 2, . . , 5 tasks of increasing degrees of difficulty;

$Va(Suc^2)$ valence of success in task 2 } on wish and fear level.
$Va(Fai^2)$ valence of failure in task 2 }

$V^\circ a(Suc^2)$ weighted valence of success in task 2 } on action level.
$V^\circ a(Fai^2)$ weighted valence of failure in task 2 }

$f_{P,Suc}{}^2$ force toward success in task 2.
$f_{P,-Fai}{}^2$ force away from failure in task 2.
$f^\circ{}_{P,Suc}{}^2$ weighted force toward success in task 2.

Table 3.1 Frequency of Raising or Lowering of the Level of Aspiration After Different Intensities of Success and Failure

	Shifts After Success				Shifts After Failure		
	S!!	S!	S	DS	F	F!	F!!
Number of cases	24	45	29	34	36	41	17
Percentage raising	96	80	55	56	22	19.5	12
Percentage lowering	4	20	45	44	78	80.5	88

(Taken from Tables 3a and 3b, Jucknat, 1937, p. 99)

S!! Very good success
S! Good success
S Just successful solution without evidence of distinct success
DS Solution with considerable effort
F Weak failure without evidence of serious feelings
F! Strong failure
F!! Very strong failure

Table 3.2 Example of Reference Scales Underlying a Level of Aspiration* **Table 3.2a†**

	1 Levels of Possible Objective	2 Valences of Fut. Suc.	3 Valences of Fut. Fai.	4 Subjective Probability Succeeding	5 Subjective Probability Failing	6 Weighted Valence of Fut. Suc.	7 Weighted Valence of Fut. Fai.	8 Resultant Weighted Valence		Resultant Weighted Valence When Group Standard Has Potency = .3	
Too difficult ↑	15	10	0	0	100	0	0	0		0	
	14	10	0	0	100	0	0	0		0	
	13	10	0	0	100	0	0	0		0	
	12	10	0	0	100	0	0	0		0	
	11	10	0	5	95	50	0	50		47	
	10	9	0	10	90	90	0	90		*63*	Level of aspiration ↑
	9	7	−1	25	75	175	−75	100		−35	
	8	6	−2	40	60	240	−120	*120*	Level of aspiration ↑	−24	*g ds* = 3
	7	5	−3	*50*	*50*	250	−150	100	*g ds* = 1	−50	
									Level of past performance and of expectation		
	6	3	−5	60	40	180	−200	−20		−98	
	5	2	−7	75	25	150	−175	−25		−93	
	4	1	−9	90	10	90	−90	0		−30	
	3	0	−10	95	5	0	−50	−50		−50	
Too easy ↓	2	0	−10	100	0	0	0	0		0	
	1	0	−10	100	0	0	0	0		0	

*Column 1 indicates the possible objectives. The "too difficult" and "too easy" levels correspond to the areas where the subjective probability of failing (column 5) and of succeeding (column 4) are 100% or close to 100%. Columns 2 and 3 give valences of future success and failure on each level; they vary between 0 and 10. Columns 6 and 7 represent the weighted valences, e.g., valence times probability, according to formulae (5a) and (5b). Column 8 gives the resultant valence according to formula (6) (see p. 66).

In this schematic example the level of past performance is assumed to have been on the level 7. The individual expects his next performance to lie on the same level, perhaps because he has found it difficult to reach that level. This "level of expectation" corresponds to the 50 – 50 level of subjective probability. The level of aspiration according to formula (6) is determined by the maximum value of the resultant weighted valence, that is, in our example the value of 120 corresponding to difficulty level 8. The goal discrepancy score (*g ds*), that is, the level of aspiration minus the level of past performance, equals 1.

†Table 3.2a represents the resultant weighted valence in a case where the valences of future success and failure are based on two reference scales: the one is the scale related to group standards as expressed in columns 2 and 3 of Table 3.5; the other scale of reference might have the same distribution of values as that in columns 2 and 3 of Table 3.2. This distribution of values might be an expression, for instance, of the valences based on one's own past performance.

The relative weight or "potency" of these two frames of references might be 3 (group standard) to 7. In such cases the valence of future success or failure would be determined by the sum of the corresponding values on the two frames of reference multiplied by that fraction which represents the relative potency of that scale. For instance, the valence of future success on the level 7 would be $5 \times .7 + 2 \times .3$; that of future failure would be $-3 \times .7 - 10 \times .3$. These values would have to be weighted by the subjective probability of success and failure as usual.

Our example shows that the poor student in our case would set his level of aspiration less high if he is not exclusively influenced by the reference scale of the group standard: the goal discrepancy equals 3 instead of 4 as in Table 3.5.

Table 3.3 Example of Reference Scales Underlying a Level of Aspiration*

1	2	3	4	5	6	7	8	
Possible Objective	Valences of		Subjective Probability		Weighted Valence of		Resultant Weighted Valence	
	Fut. Suc.	Fut. Fai.	Succeeding	Failing	Fut. Suc.	Fut. Fai.		
15	10	0	0	100	0	0	0	
14	10	0	0	100	0	0	0	
13	10	0	0	100	0	0	0	
12	10	0	5	95	50	0	50	
11	10	0	10	90	100	0	100	
10	9	0	25	75	225	0	225	Level of Aspiration
9	7	− 1	40	60	280	− 60	220	↑ ↓ *att ds* = −2
8	6	− 2	*50*	*50*	300	−100	200	*g ds* = 3 Level of New Performance
7	5	− 3	60	40	300	−120	150	Level of Past Performance
6	3	− 5	75	25	300	−125	175	↑ "Post-Factum Goal Line"
5	2	− 7	90	10	180	− 70	110	
4	1	− 9	95	5	95	− 45	50	
3	0	−10	100	0	0	0	0	
2	0	−10	100	0	0	0	0	
1	0	−10	100	0	0	0	0	

*Table 3.3 shows the same level of past performance and the same distribution of valences of success and failure as Table 3.2. However, the 50 – 50 level of subjective probability, corresponding to the expectation for the next performance, lies one level higher. As a result, the maximum resultant weighted valence is raised so that the goal discrepancy score (*g ds*) is now 3.

The level of new performance is 8. The attainment discrepancy (*att ds*) is, therefore, −2 and would usually lead to the feeling of failure. In our case the individual consoles himself by setting up a "post-factum" goal line on the level of his past performance, in this way creating a "satisfactory" post-factum attainment score of +1.

Table 3.4 Example of Reference Scales Underlying a Level of Aspiration*

1	2	3	4	5	6	7	8
Possible Objective	Valences of		Subjective Probability		Weighted Valence of		Resultant Weighted Valence
	Fut. Suc.	Fut. Fai.	Succeeding	Failing	Fut. Suc.	Fut. Fai.	
15	10	0	0	100	0	0	0
14	10	0	0	100	0	0	0
13	10	0	0	100	0	0	0
12	10	0	0	100	0	0	0
11	10	0	5	95	50	0	*50*
10	9	0	10	90	90	0	*90*
9	7	− 2	25	75	175	−150	25 ↑
8	6	− 4	40	60	240	−240	0 *g ds* = 3
7	5	− 6	*50*	*50*	250	−300	− 50
6	3	−10	60	40	180	−400	−220
5	2	−14	75	25	150	−350	−200
4	1	−18	90	10	90	−180	− 90
3	0	−20	95	5	0	−100	−100
2	0	−20	100	0	0	0	0
1	0	−20	100	0	0	0	0

*The values on the scale of valence of future success and on the scales of subjective probability are the same as in Table 3.2. The negative valences on the failure scale are doubled, expressing the great weight which failure has for the individual. It is obvious that, as a rule, the greater negative values on column 3 would tend to lower the position of the resultant weighted valence. In our example the greater fear for failure actually raises the level of the resultant valence in an atypical way from the level 8 to the level 10. Such atypical cases where fear of failure leads to a high level of aspiration and a high goal discrepancy score (equals 3) are frequently observed. They are one of the reasons why a group of individuals who fail show a great scattering of discrepancy scores.

Table 3.5 Example of the Effect of a Group Standard. Comparison of an Individual with Low, Medium, and High Performance Level*

	Possible Objective	Valence: Suc.	Valence: Fai.	Subj. Prob. of Success for a Person with Low Perf.	Medium Perf.	High Perf.		Resultant Weighted Valence for a Person with Low Perf.		Medium Perf.		High Perf.	
	15	6	0	0	0	10		0		0		60	
	14	6	0	0	0	25		0		0		150	
	13	6	0	0	5	40		0		30		240	
	12	6	0	0	10	*50*	Last performance	0		60		300	
	11	8	0	5	25	60		*40*		200		400	
Group standard	10	9	− 1	10	40	75		0		*300*		650	*g ds* = −3
	9	10	− 8	25	*50*	90	Last performance	−350	*g ds* = 4	100	*g ds* = 1	*820*	
	8	6	−10	40	60	95		−360		− 40		520	
	7	2	−10	*50*	75	100	Last performance	−400		−100		200	
	6	0	−10	60	90	100		−400		−100		0	
	5	0	−10	75	95	100		−250		− 50		0	
	4	0	−10	90	100	100		−100		0		0	
	3	0	−10	95	100	100		− 50		0		0	
	2	0	−10	100	100	100		0		0		0	
	1	0	−10	100	100	100		0		0		0	

*In this example the group standard lies on the position of the maximum valence of success and on a steep gradient of the valence scale of failure. Columns 3, 4, and 5 indicate the subjective probability of success for three individuals whose performance is below the group standard, on the group standard and above the group standards, for instance, a poor, medium, and good student in a class. To condense the table we are not presenting the scale of probable failure which is the converse of that of success. It is assumed in our example that our three individuals are rather realistic and that their level of expectation, that is, the 50 – 50 level of probable success, lies on the level of their past performance.

If the group standards were the only scale determining the valence of success and failure, the level of aspiration of all three individuals would lie on or above the group standard; this would mean that the poor student would have a high positive goal discrepancy score ($g\ ds = 4$); the best students, a negative discrepancy score ($g\ ds = -3$). In our example the level of aspiration of the poor students would be even higher than that of the good ones.

This example illustrates why the level of aspiration might be kept above or below one's own ability.

As a rule, of course, the scale related to the group standards is only one of several reference scales underlying the valence of future success and failure. Table 3.2a gives the result of a combination with another reference scale.

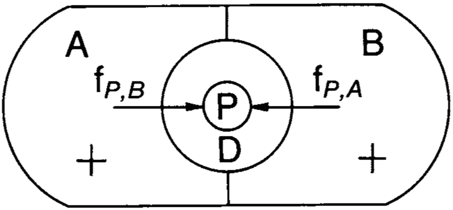

***Figure 4.1** A topological representation of a decision involving two alternatives. Region* P *represents the person, region* D *represents the activity of deciding, and* A *and* B *stand for the two alternatives.*

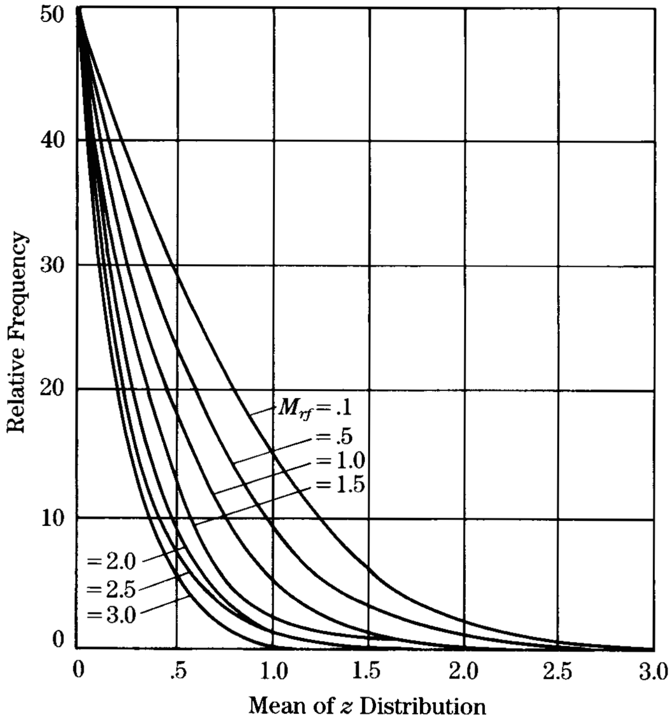

Figure 4.2 Theoretical relative frequency curves for indicated mean values of restraining force **($M_{r,f}$).**

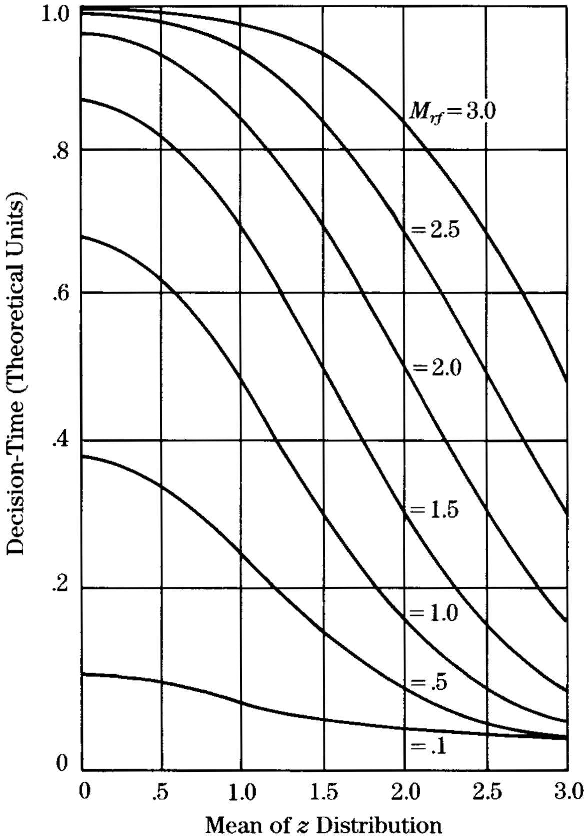

***Figure 4.3** Theoretical decision-time curves for indicated mean values of restraining force* ($M_{r,f}$).

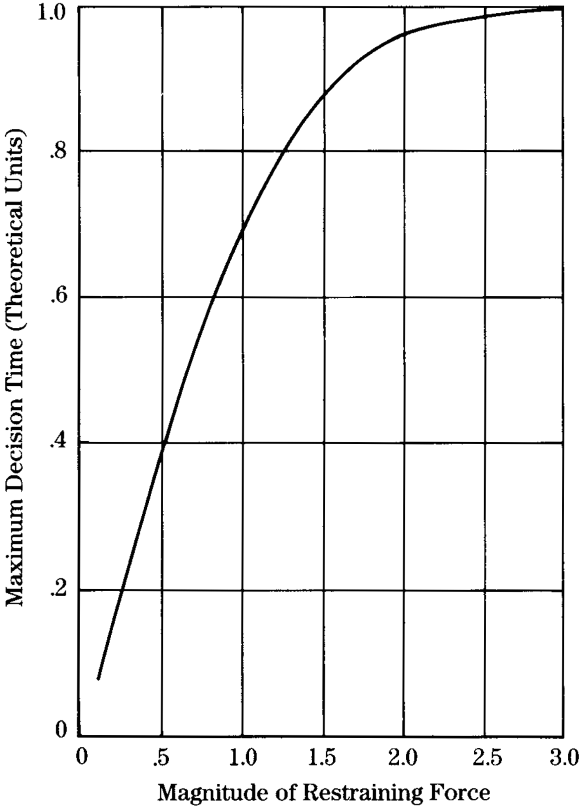

Figure 4.4 Maximal decision-time as a function of mean restraining force.

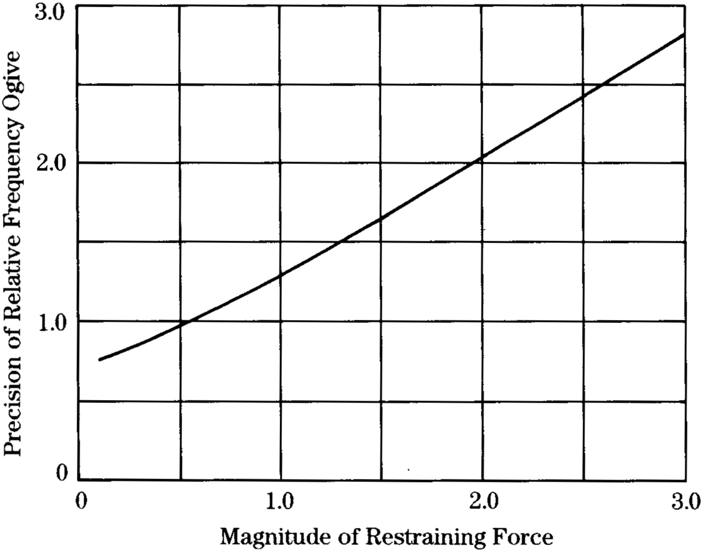

Figure 4.5 ***Precision of relative frequency ogive as a function of mean restraining force.***

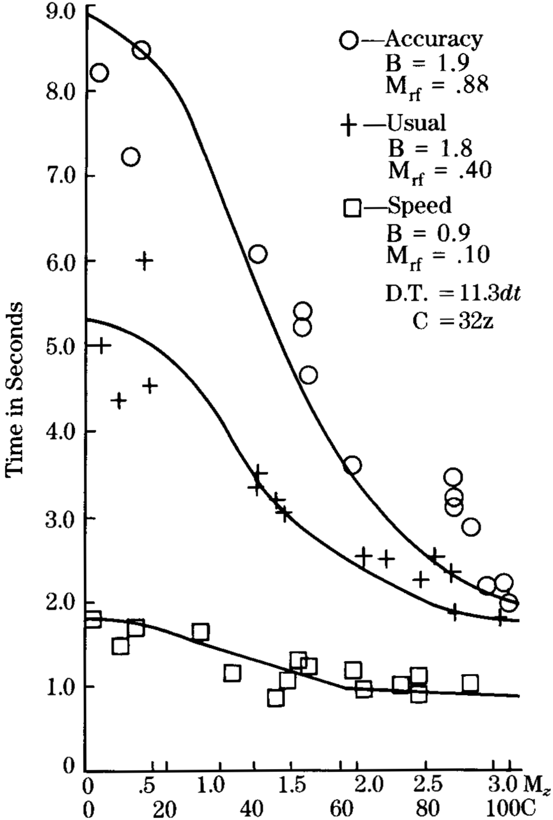

***Figure 4.6* Theoretical decision-time curves fitted to data from one subject under three conditions of judgment. (Recalculated from Johnson, 15.)**

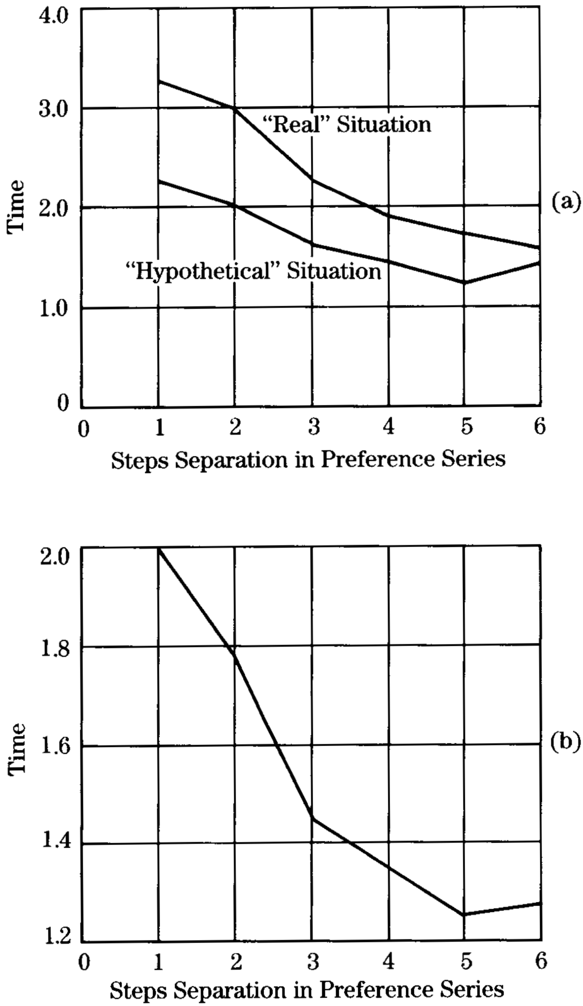

***Figure 4.7** (a) Time elapsing during the resolution of conflict between alternatives separated by different "distances" in the preference series. (From Barker, 1.) (b) Time elapsing for esthetic judgments between alternatives separated by different "distances" in the preference series. (From Dashiell, 6.)*

Table 4.1 Standard Deviation and Precision of the Relative Frequency Ogive as a Function of the Magnitude of the Mean Restraining Force

M_{rf}	Standard Deviation	Precision (h)
.1	.935	.756
.2	.875	.808
.3	.820	.862
.4	.770	.918
.5	.722	.979
.6	.680	1.040
.7	.643	1.100
.8	.606	1.167
.9	.574	1.232
1.0	.545	1.297
1.1	.518	1.365
1.2	.493	1.434
1.3	.470	1.504
1.4	.450	1.571
1.5	.430	1.644
2.0	.351	2.014
2.5	.296	2.389
3.0	.255	2.773

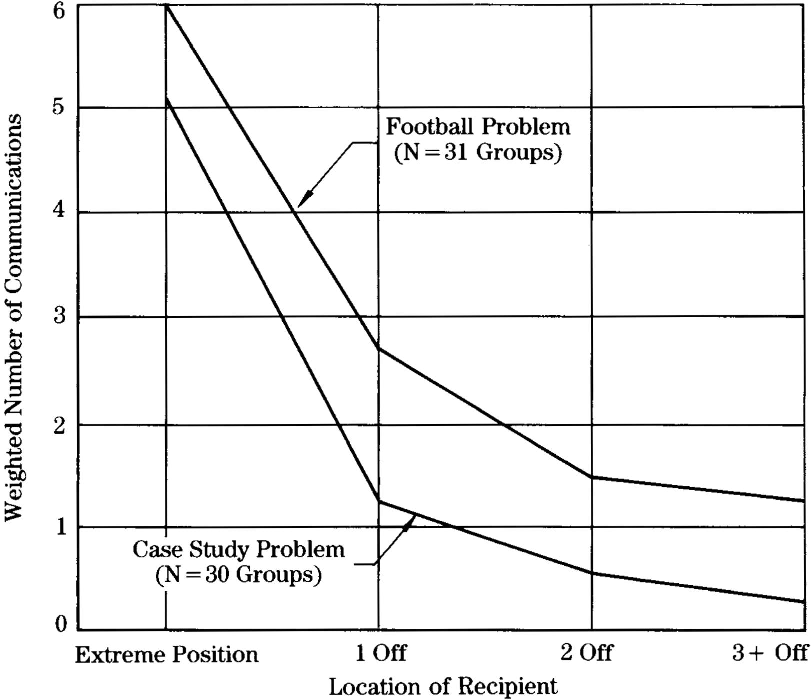

Figure 7.1 Patterns of communication (first 10 min.).

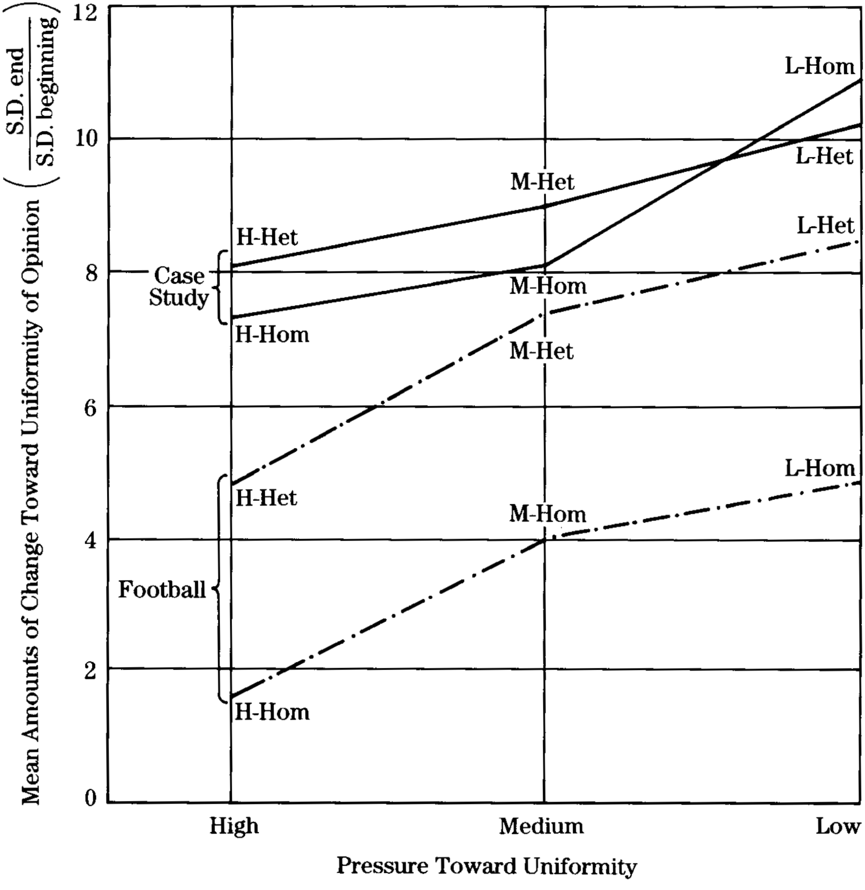

***Figure 7.2** Mean amounts of change toward uniformity of opinion.*

Table 7.1 Mean Communication Indices for Football Problem Discussions

	First Ten Minutes				Second Ten Minutes		
	High	Medium	Low		High	Medium	Low
Hom	.68	.85	.88	Hom	.74	.63	.86
Het	.83	.83	.86	Het	.75	1.30	.99

Table 7.2 Mean Communication Indices for Case Study Problem Discussion

	First Ten Minutes				Second Ten Minutes		
	High	Medium	Low		High	Medium	Low
Hom	.27	.62	.48	Hom	.35	.56	.74
Het	.31	.50	.31	Het	.30	.72	.78

Table 8.1 Analysis of Discrepancies Between Subject's Rating of Paid-Participant and Rating of Self on I.Q.

Source	d.f.	Variance Est.	P
Importance	1	11.16	
Peer vs. non-peer	1	5,304.02	<.001
Schools	1	75.45	
Interactions	4	211.66	
Error	48	92.70	

Table 8.2 Rated Validity of Bargaining Situation as a Measure of Intelligence

Source	d.f	Variance Est.	P
Importance	1	46.29	<.001
Peer vs. non-peer	1	0.57	
Schools	1	7.00	<.01
Interactions	4	0.14	
Error	104	0.76	

Table 8.3a Average Points per Trial Earned by A

Impor.	School	Peer	Non-Peer	Avg.
High	S.F.	1.29	1.75	1.52
	Stan.	1.57	2.39	1.98
	(Avg.)	(1.43)	(2.07)	(1.75)
Low	S.F.	1.32	2.54	1.93
	Stan.	2.50	4.36	3.43
	(Avg.)	(1.91)	(3.45)	(2.68)
(S.F. avg.)		1.30	2.15	1.72
(Stan avg.)		2.04	3.37	2.71
(Avg.)		(1.67)	(2.76)	(2.21)

Table 8.3b Analysis of Average Points per Trial for A

Source	d.f.	Variance	P
Importance	1	200.65	<.02
Peer vs. non-peer	1	274.57	<.01
Schools	1	208.28	<.01
Interactions	4	39.25	
Error	48	24.89	

Table 8.4a Average Per Cent of Terminal Coalitions Having A as a Member

Impor.	School	Peer	Non-Peer	Avg.
High	S.F.	36	46	41
	Stan.	57	64	60
	(Avg.)	(46)	(55)	(50)
Low	S.F.	43	64	54
	Stan.	61	86	74
	(Avg.)	(52)	(75)	(64)
(S.F. avg.)		40	55	48
(Stan. avg.)		59	75	67
(Avg.)		(50)	(65)	(58)

Table 8.4b Analysis of Average Number of Coalitions Having A as a Member

Source	d.f.	Variance	P
Importance	1	4.57	<.05
Peer cond.	1	5.78	<.05
Schools	1	5.78	<.05
Interactions	4	0.18	
Error	48	1.01	

Table 8.5 Average Points per Coalition Earned by A

Motiv.	School	Peer	Non-Peer	Avg.
High	S.F.	3.60*	3.58†	3.59
	Stan.	3.19	3.77	3.48
	Avg.	(3.36)	(3.68)	(3.53)
Low	S.F.	3.12*	4.00	3.63
	Stan.	4.15†	5.16	4.69
	Avg.	(3.68)	(4.57)	(4.18)
S.F.	Avg.	3.36	3.81	3.61
Stan.	Avg.	3.63	4.46	4.06
		(3.51)	(4.15)	(3.86)

*Mean based on 5 groups.
†Mean based on 6 groups.
Those groups in which A never succeeded in entering a coalition had to be omitted from the analysis.

Table 8.6a Average Discrepancy Paid to Break B-C Coalition

Impor.	School	Peer	Non-Peer	Total
High	S.F.	2.2	2.0	2.1
	Stan.	3.4	2.2	2.8
	(Avg.)	(2.8)	(2.1)	(2.5)
Low	S.F.	2.4	1.8	2.1
	Stan.	1.6	1.2	1.4
	(Avg.)	(2.0)	(1.5)	(1.8)
(S.F. avg.)		2.3	1.9	2.1
(Stan. avg.)		2.5	1.7	2.1
(Avg.)		(2.4)	(1.8)	(2.1)

Table 8.6b Analysis of Discrepancy Paid to Break B-C Coalition

Source	d.f	Variance	Est. P
Impor.	1	841.1	<.05
Peer cond.	1	841.1	<.05
Schools	1	1.4	
Impor. schools	1	970.9	<.05
Inter.	3	14.1	
Error	48	164.1	

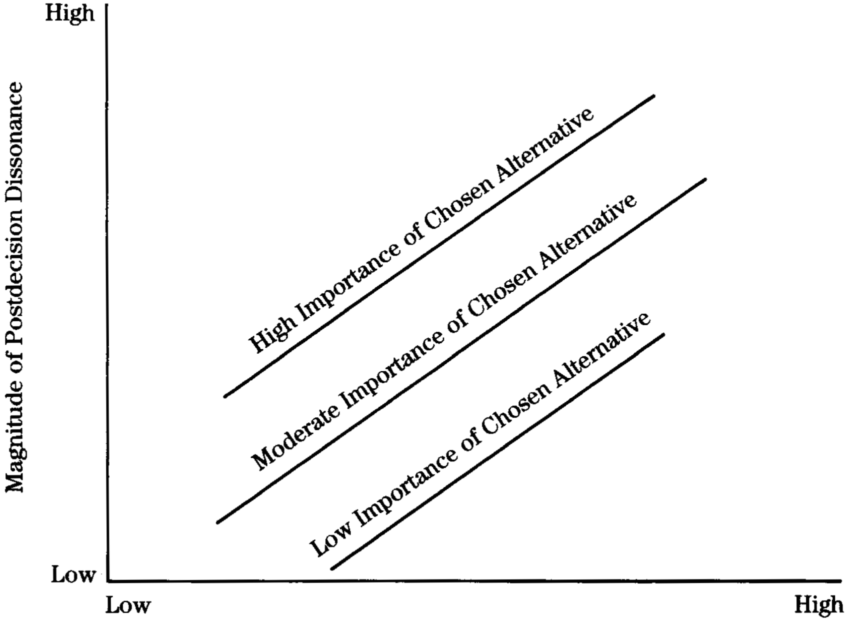

Figure 9.1 Postdecision dissonance as a function of properties of the unchosen alternative.

Table 12.1 Average Ratings on Interview Questions for Each Condition

Question on Interview	Experimental Condition		
	Control ($N = 20$)	One Dollar ($N = 20$)	Twenty Dollars ($N = 20$)
How enjoyable tasks were (rated from −5 to +5)	−.45	+1.35	−.05
How much they learned (rated from 0 to 10)	3.08	2.80	3.15
Scientific importance (rated from 0 to 10)	5.60	6.45	5.18
Participate in similar exp. (rated from −5 to +5)	−.62	+1.20	−.25

Table 12.2 Average Ratings of Discussion Between Subject and Girl

Dimension Rated	Condition		
	One Dollar	Twenty Dollars	Value of t
Content before remark by girl (rated from 0 to 5)	2.26	2.62	1.08
Content after remark by girl (rated from 0 to 5)	1.63	1.75	0.11
Over-all content (rated from 0 to 5)	1.89	2.19	1.08
Persuasiveness and conviction (rated from 0 to 10)	4.79	5.50	0.99
Time spent on topic (rated from 0 to 10)	6.74	8.19	1.80

Reward Schedule	Number of Unrewarded Trials			
	0	16	27	72
33%		24	43	108
50%		31	54	144
67%		48		216
100%	0 54 216			

Figure 13.1 ***Total number of trials after preliminary training in partial reward experiment.***

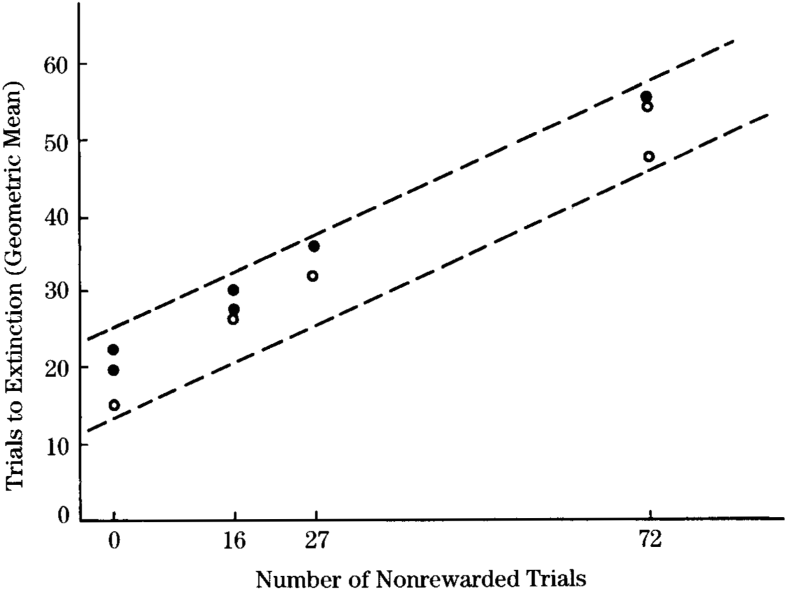

Figure 13.2 Number of trials to extinction after partial reward.

Figure 13.3 Running time during extinction in single mid-box experiment.

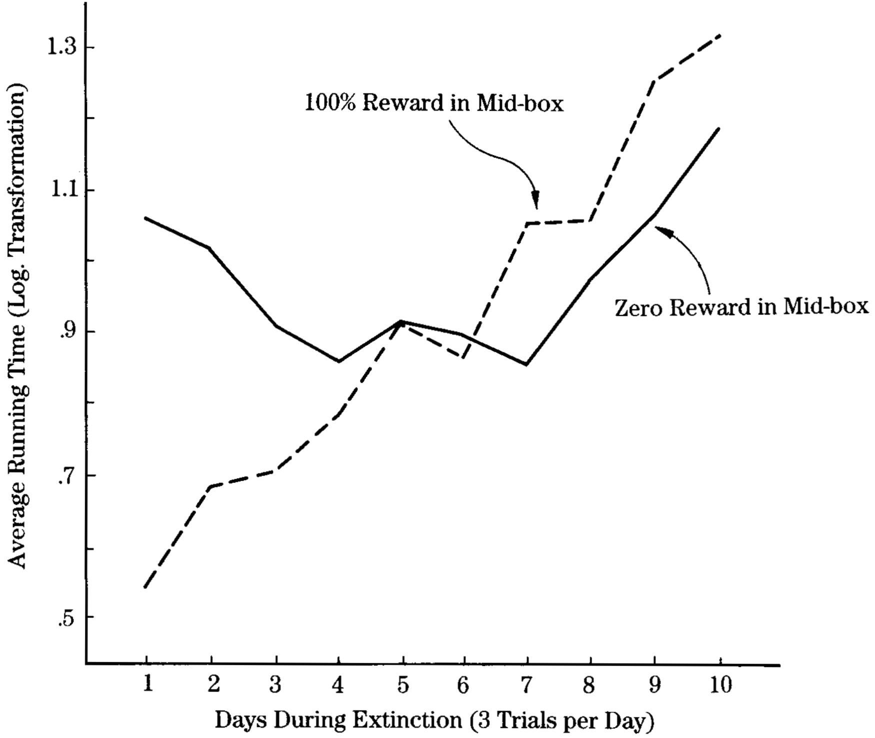

Figure 13.4 Running time while satiated during extinction in single mid-box experiment.

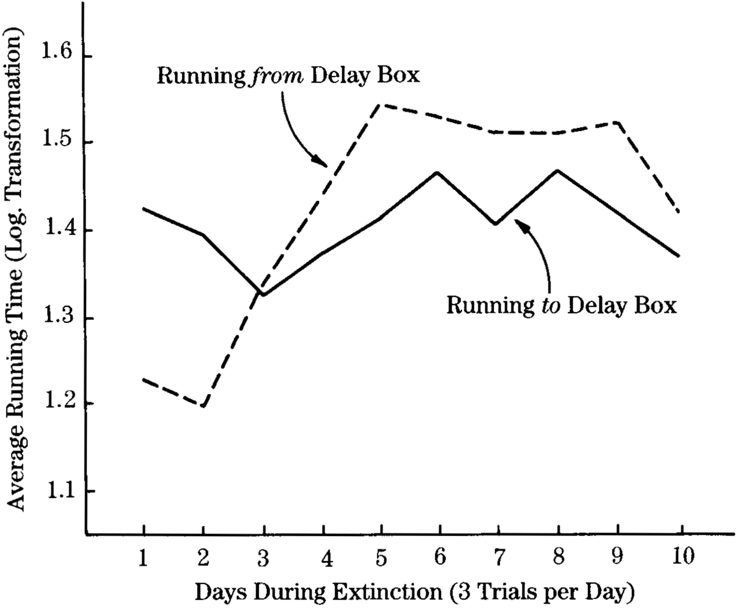

Figure 13.5 Running time while satiated during extinction in double mid-box experiment.

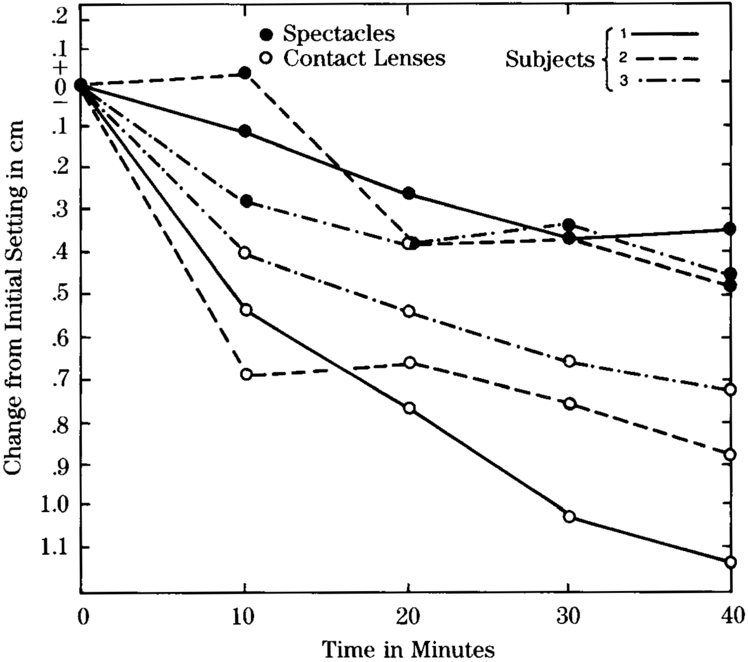

***Figure 14.1** Adaptation to apparent curvature for prisms in spectacles and on contact lenses.*

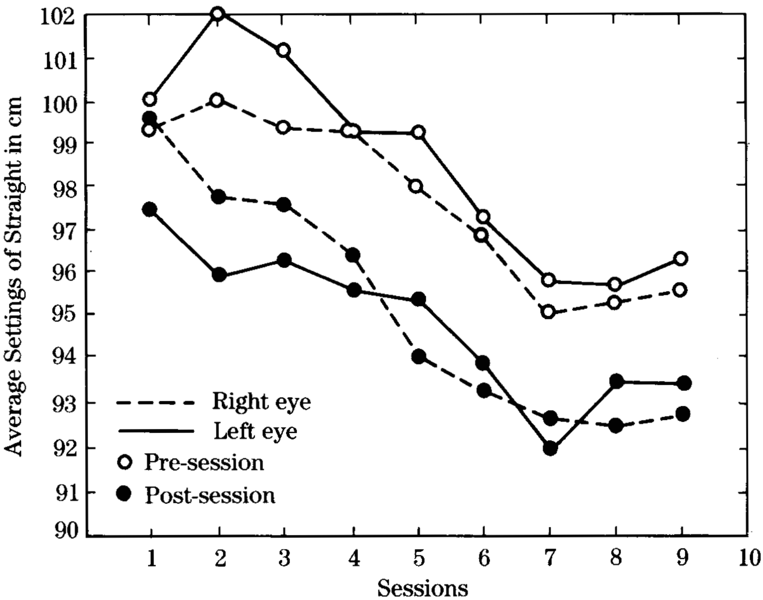

***Figure 14.2** Aftereffect and transfer of adaptation to apparent curvature for S 3.*

Table 14.1 Initial Measurements and Changes (in Centimeters) in the Perception of a Straight Line (Exp. I)

	Experimental Cond.			
	Apparently Straight		Apparently Curved	
	Learning	Accuracy	Learning	Accuracy
Initial with prisms	4.55	4.34	4.29	4.39
Change with prisms	+.28	+.10	+1.59	+1.31
Initial with naked eye	9.92	9.96	9.90	9.96
Change with naked eye	+.18	+.02	+.86	+.65

Table 14.2 Initial Measurements and Changes (in Centimeters) in the Perception of a Straight Line (Exp. II)

	Experimental Cond.			
	Apparently Straight		Apparently Curved	
	Learning	Contact	Learning	Contact
Initial with prism (right eye)	5.02	4.86	4.94	5.01
Change	+.23	+.15	+1.20	+.88
Initial with right naked eye	9.77	9.72	9.74	9.88
Change	+.32	+.20	+.91	+.68
Initial with left naked eye	10.04	10.03	10.09	10.10
Change	+.14	+.05	+.35	+.20

Table 14.3 Number of Strokes and Its Correlation with the Combined Index of Perceptual Change

	Experimental Cond.			
	Apparently Straight		Apparently Curved	
	Learning	Contact	Learning	Contact
Number of strokes	624.00	689.93	585.33	626.73
r between adapt + aftereffect and number of strokes	−.172	+.525	+.022	+.500

Table 14.4 Mean Adaptation After Each Shooting Period (in Centimeters)

	Experimental Cond.					
Period	Apparently Curved		Apparently Straight		Supplementary Groups	
	Infrared	Visible Light	Infrared	Visible Light	Aim Only	No Information
1	.32	−.59	.17	−.32	.36	−.20
2	.09	−.36	.25	−.07	.07	−.19
3	.03	−.59	.43	−.14	.05	−.62
4	.20	−.48	.49	−.45	.14	−.10
5	.28	−.29	.40	−.57	.07	−.07
Avg.	.19	−.46	.35	−.31	.14	−.24

Table 14.5 Course of Daily Adaptation to Prismatic Curvature Distortion While Viewing an Apparently Straight Line

Time of Setting with Prism	Subject		
	1	2	3
0 min.	12.00	12.17	10.88
10 min.	11.80	11.95	10.86
20 min.	11.65	11.94	10.71
30 min.	11.59	11.97	10.71
40 min.	—	11.95	10.69
Naked eye setting at start of session	10.10	10.10	9.99
Percentage of adaptation at end of session	21.6	10.6	21.3

Note.—Average readings (in centimeters) are of settings of apparently straight lines. Three-day averages for each *S* are presented.

Table 14.6 Daily Adaptation to Prismatic Curvature Distortion While Viewing an Apparently Curved Line

Time of Measurement with Prism	Subject		
	1[a]	2[a]	3[b]
0 min.	12.26	12.13	11.19
10 min.	11.73	11.44	10.79
20 min.	11.50	11.48	10.66
30 min.	11.24	11.38	10.55
40 min.	11.13	11.26	10.48
Naked eye setting at start of session	9.82	9.98	9.67
Percentage of adaptation at end of session	46.3	40.5	46.7

Note.—Averages of "apparently straight" settings on centimeter scale.
[a]2 days.
[b]3 days.

Table 14.7 Adaptation to Prismatic Curvature Distortion While Viewing an Apparently Curved Line Wearing Prism Spectacles

Time of Measurement with Prism	Subject		
	1	2	3
0 min.	12.52	12.78	10.84
10 min.	12.41	12.81	10.56
20 min.	12.26	12.40	10.46
30 min.	12.16	12.42	10.51
40 min.	12.18	12.31	10.39
Naked eye setting at start of session	10.05	9.93	9.68
Percentage of adaptation at end of session	13.8	16.5	38.8

Note.—Averages of "apparently straight" settings on centimeter scale.

Table 14.8 Aftereffects of Adaptation for the Naked Eye After Wearing Contact Lens

	Subject 1		Subject 2		Subject 3	
	Pre	Post	Pre	Post	Pre	Post
Day 1	10.02	10.11s	9.99	9.78s	9.94	9.96s
Day 2	10.22	10.14s	10.22	9.75s	10.09	9.78s
Day 3	10.06	9.78s	10.10	9.74s	9.94	9.76s
Day 4	9.99	9.80sv	10.04	9.41c	9.93	9.64st
Day 5	9.93	9.51c	9.92	9.27c	9.81	9.41c
Day 6	9.71	9.43c	9.89	9.26ct	9.69	9.33c
Day 7					9.51	9.27c
Day 8					9.54	9.26ct
Day 9					9.57	9.28ct

Note.—Averages of "apparently straight" settings on centimeter scale, s = viewed apparently straight line, c = viewed apparently curved line, t = tracked pointer, v = on this day *S* 1 moved a stylus along lines himself.

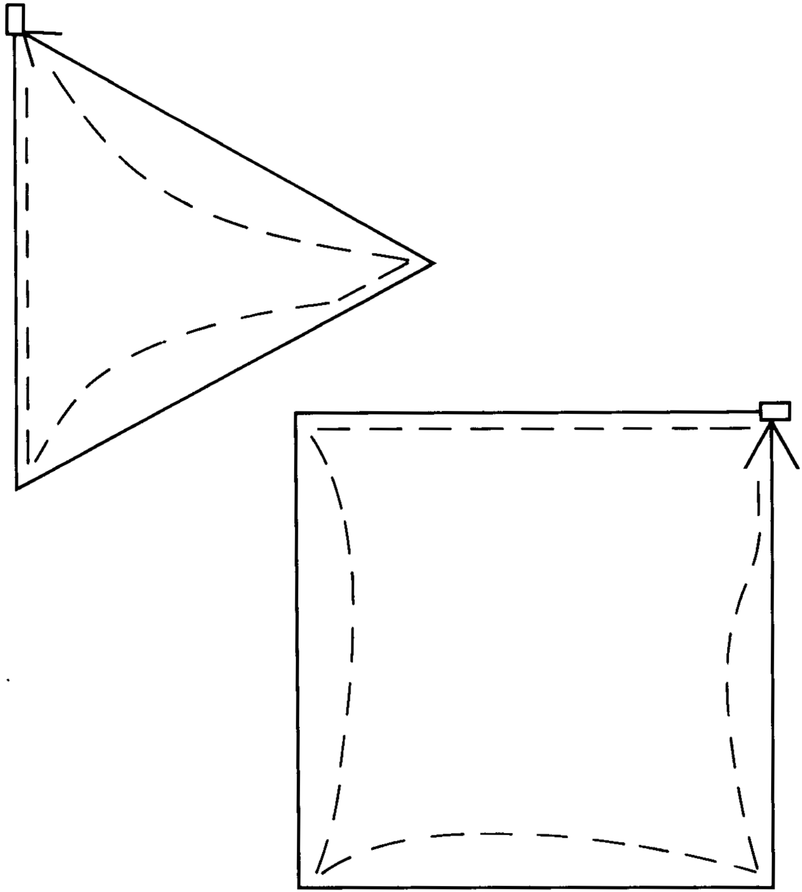

Figure 15.1 Perception of the path of a target moving in a square or triangular path. (Solid lines indicate the physical paths, and arrows indicate the direction of motion. Dashed lines describe the perceived paths.) (Adapted from an article by E. Fujii from the 1943 Japanese Journal of Psychology. *Copyrighted by the Japanese Psychological Association, 1943.)*

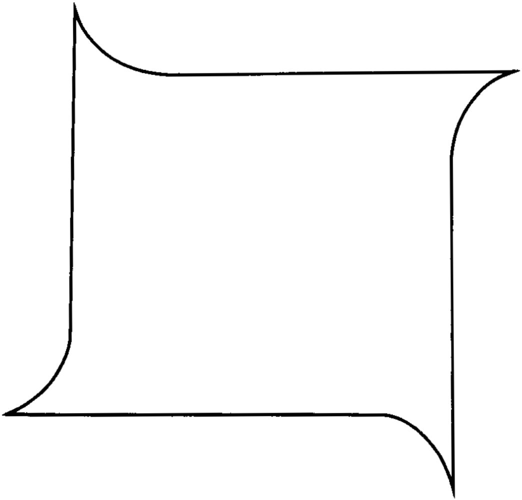

***Figure 15.2** Perception of the path of a target moving in a square path at frequencies below .3 to .4 cycles per second.*

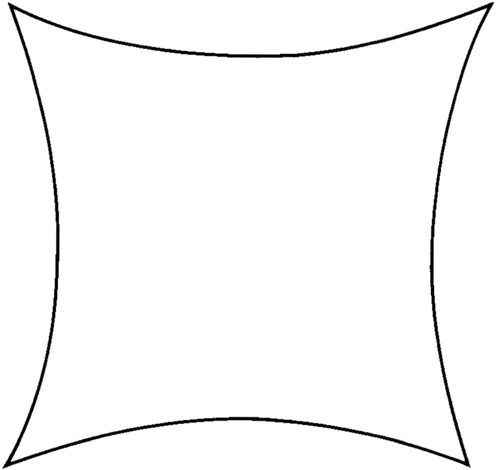

Figure 15.3 Perception of the path of a target moving in a square path at frequencies about .5 to .6 cycles per second.

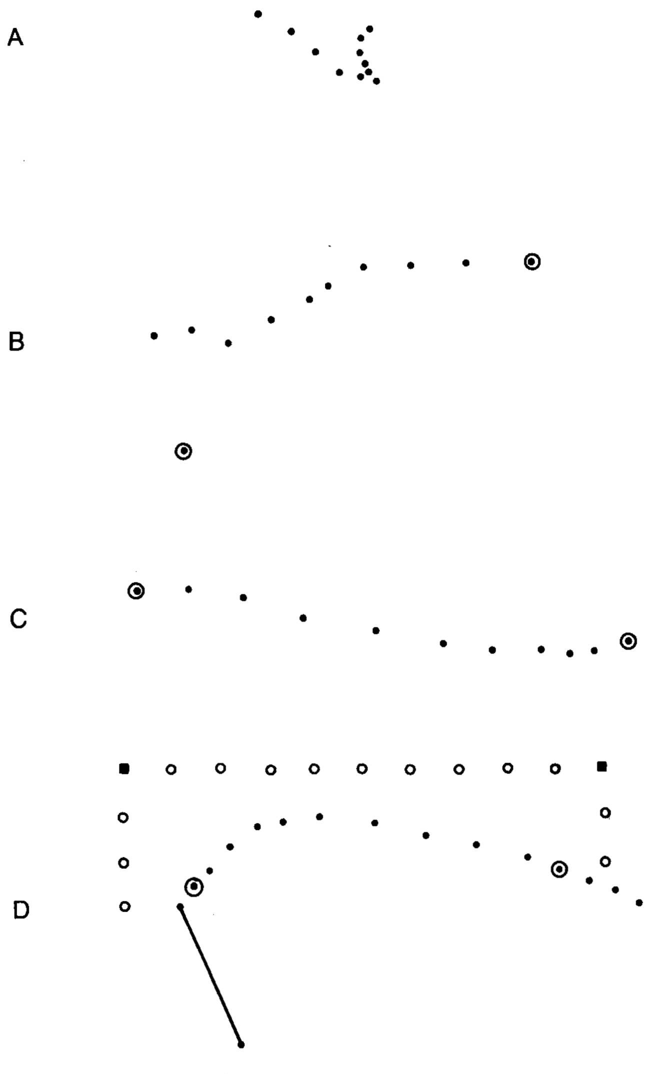

Figure 15.12 Comparison with computations based on differential latencies of retinal and eye-position information. (Section A shows corrected retinal path; Section B, eye-position information delayed 70 milliseconds; Section C, retinal information delayed 70 milliseconds; Section D, eye and target positions used in computations. Small squares indicate physical location of the corners of the path. Open circles indicate target positions, filled circles eye positions when the spot turns the corner. Solid line indicates saccadic eye movements.)

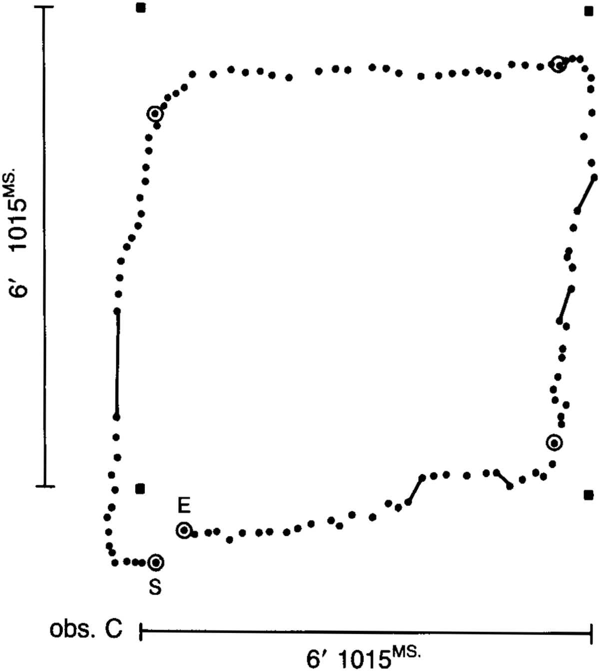

Figure 15.4 Successive eye position for Observer C. for one cycle of target moving at .25 cycles per second (6° path). (Small squares indicate the physical location of the corners of the square path. Filled circles indicate position of the eye at one moment in time; successive points are separated by 35 milliseconds. Open circles around filled circles indicate position of the eye at the moment the spot instantaneously turns the corner. The cycle starts at "S" and ends at "E." Unconnected consecutive circles indicate smooth pursuit movement. Circles connected by solid lines indicate saccadic movements. Abbreviations: Obs. = observer; ms. = millisecond.)

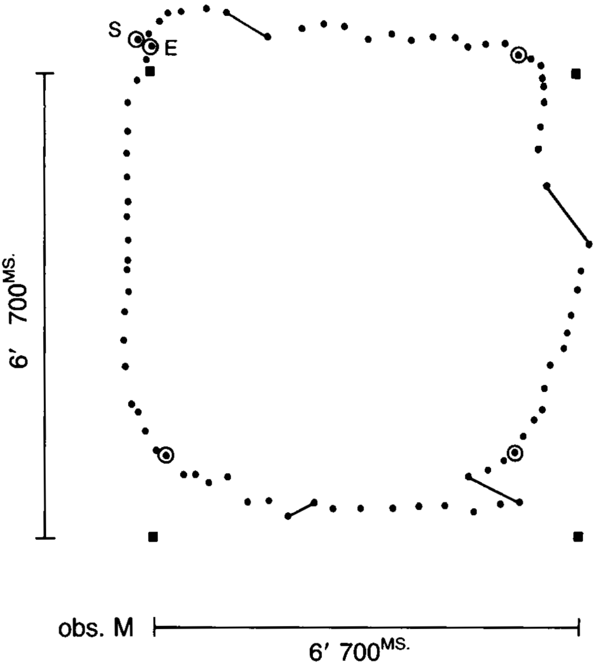

Figure 15.5 Successive eye positions for Observer M. for one cycle of target moving at .36 cycles per second (6° path). (Small squares indicate the physical location of the corners of the square path. Filled circles indicate position of the eye at one moment in time; successive points are separated by 35 milliseconds. Open circles around filled circles indicate position of the eye at the moment the spot instantaneously turns the corner. The cycle starts as "S" and ends at "E." Unconnected consecutive circles indicate smooth pursuit movement. Circles connected by solid lines indicate saccadic movements. Abbreviations: Obs. = observer; ms. = milliseconds.)

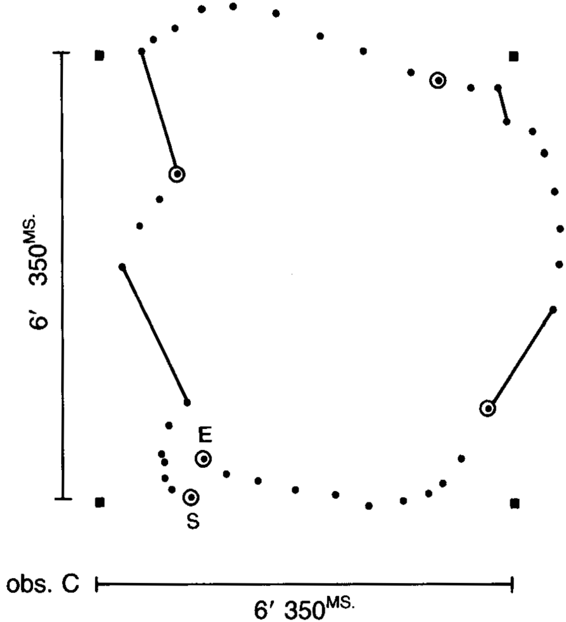

Figure 15.6 *Successive eye positions for Observer C. for one cycle of target moving at .71 cycles per second (6° path). (Small squares indicate the physical location of the corners of the square path. Filled circles indicate position of the eye at one moment in time; successive points are separated by 35 milliseconds. Open circles around filled circles indicate position of the eye at the moment the spot instantaneously turns the corner. The cycle starts at "S" and ends at "E." Unconnected consecutive circles indicate smooth pursuit movement. Circles connected by solid lines indicate saccadic movements. Abbreviations: Obs. = observer; ms. = milliseconds.)*

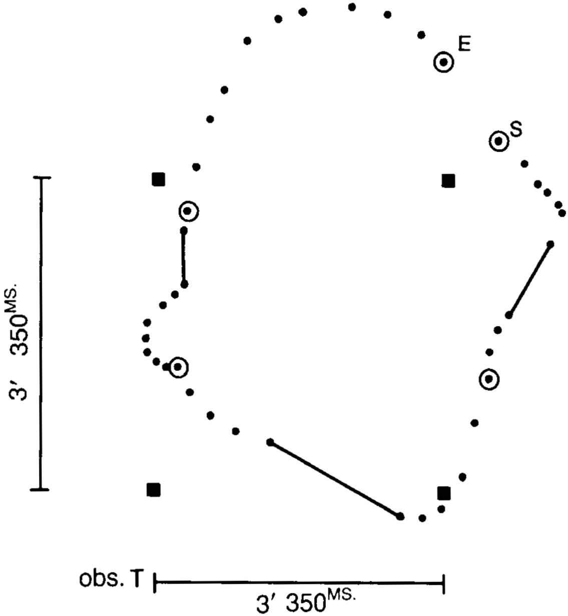

Figure 15.7 Successive eye positions for Observer T. for one cycle of target moving at .71 cycles per second (3° path). (Small squares indicate the physical location of the corners of the square path. Filled circles indicate position of the eye at one moment in time; successive points are separated by 35 milliseconds. Open circles around filled circles indicate position of the eye at the moment the spot instantaneously turns the corner. The cycle starts at "S" and ends at "E." Unconnected consecutive circles indicate smooth pursuit movement. Circles connected by solid lines indicate saccadic movements. Abbreviations: Obs. = observer; ms. = milliseconds.)

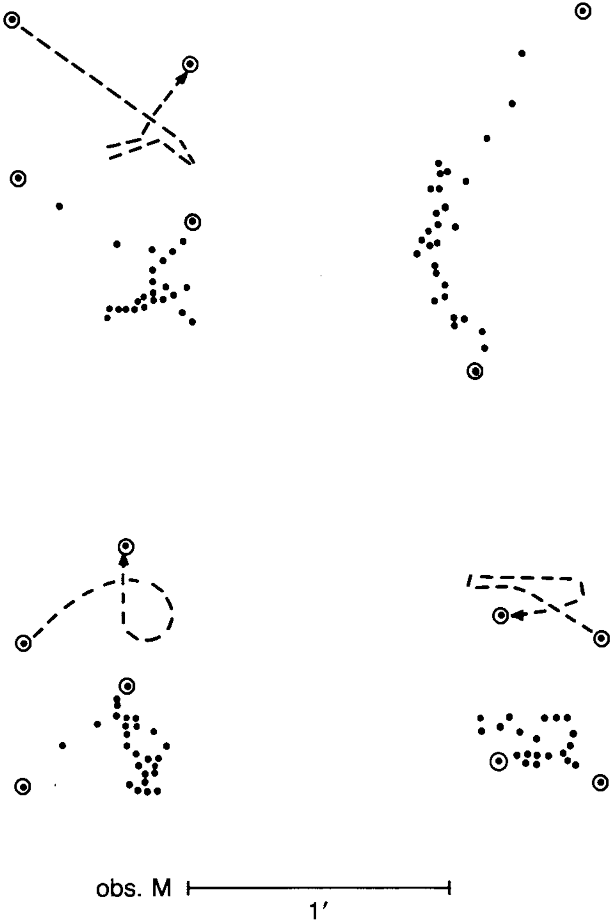

Figure 15.8 Corrected retinal path for Observer M. for one cycle of target moving at .25 cycles per second (6° path). (Each filled circle represents successive relative postions at 35-millisecond intervals of the moving spot on the retina, plotted in terms of visual field rather than the reversed retinal field, corrected for saccadic eye movements. Encircled circles indicate retinal postion of the spot at the moment it turns a corner. For visual clarity, the retinal path for each side of the square is separated from the others. Dashed line indicates general path on retina where data points were clustered very closely. Abbreviation: Obs. = observer.)

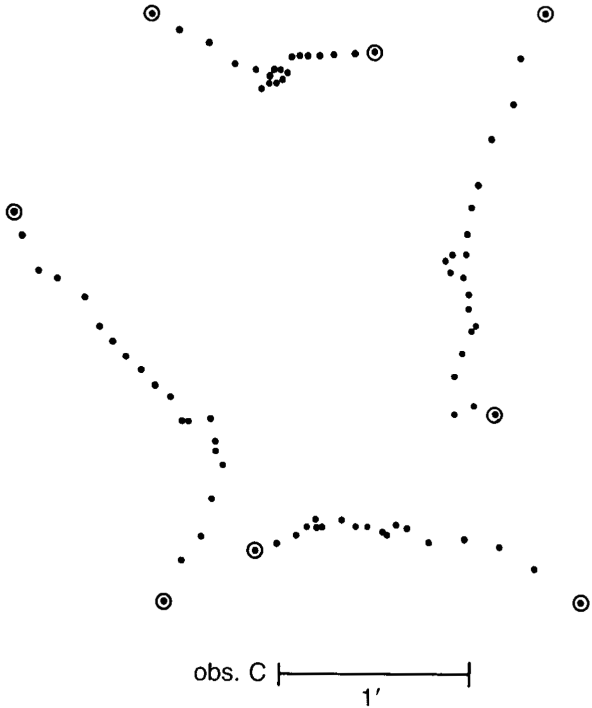

Figure 15.9 Corrected retinal path for Observer C. for one cycle of target moving at .36 cycles per second (6° path). (Each filled circle represents successive relative positions at 35-millisecond intervals of the moving spot on the retina, plotted in terms of visual field rather than the reversed retinal field, corrected for saccadic eye movements. Encircled circles indicate retinal position of the spot at the moment it turns a corner. For visual clarity, the retinal path for each side of the square is separated from the others. Abbreviations: Obs. = observer.)

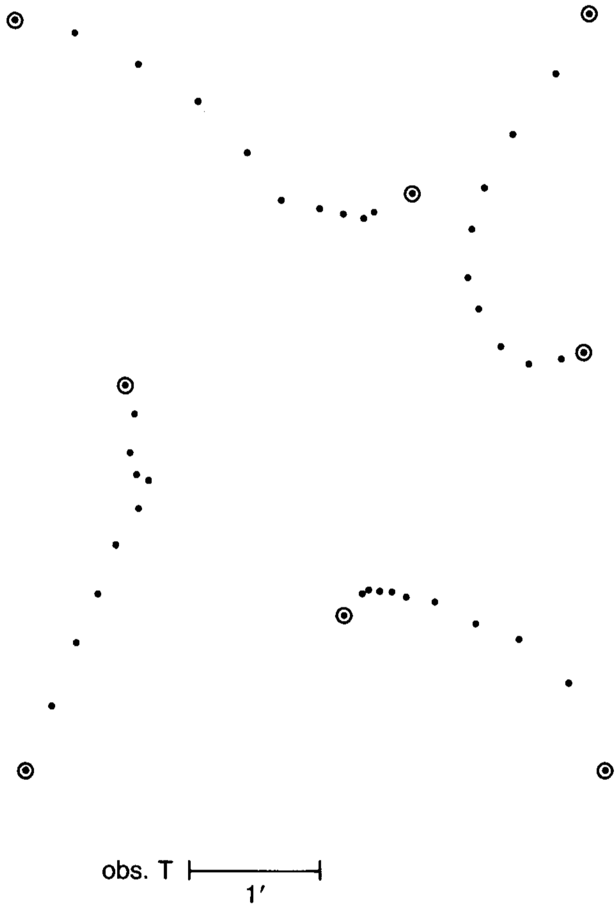

Figure 15.10 Corrected retinal path for Observer T. for one cycle of target moving at .71 cycles per second (6° path). (Each filled circle represents successive relative positions at 35-millisecond intervals of the moving spot on the retina, plotted in terms of visual field rather than the reversed retinal field, corrected for saccadic eye movements. Encircled circles indicate retinal position of the spot at the moment it turns a corner. For visual clarity, the retinal path for each side of the square is separated from the others. Abbreviations: Obs. = observer.)

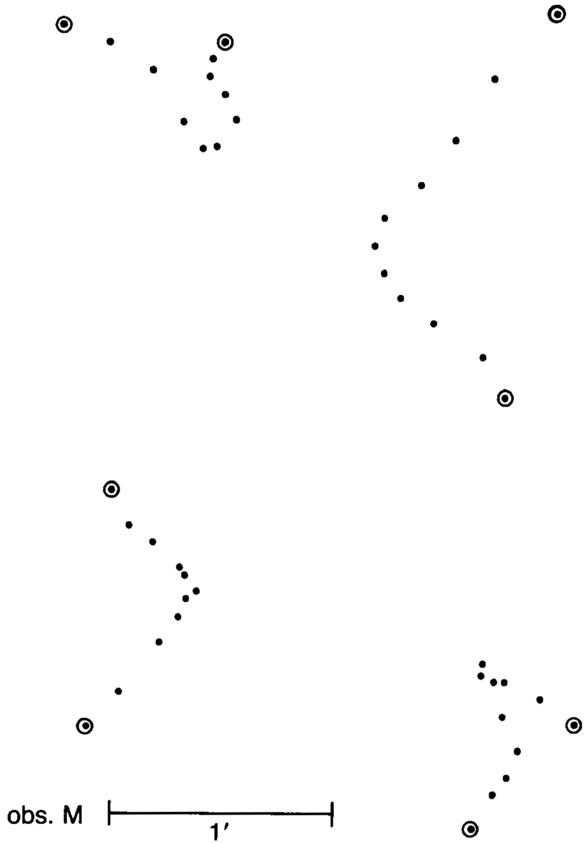

***Figure 15.11** Corrected retinal path for Observer M. for one cycle of target moving at .71 cycles per second (3° path). (Each filled circle represents successive relative positions at 35-millisecond intervals of the moving spot on the retina, plotted in terms of visual field rather than the reversed retinal field, corrected for saccadic eye movements. Encircled circles indicate retinal position of the spot at the moment it turns a corner. For visual clarity, the retinal path for each side of the square is separated from the others. Abbreviations: Obs. = observer.)*

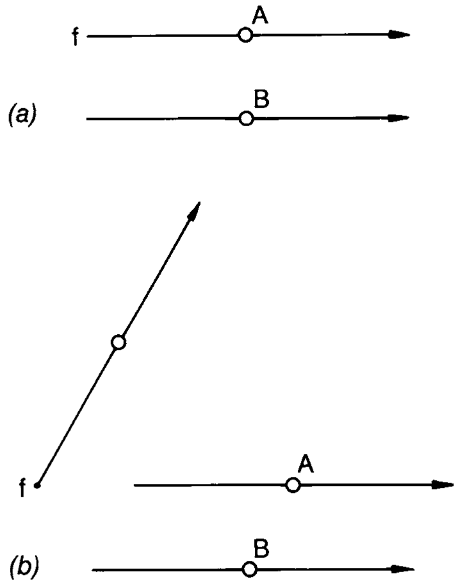

Figure 16.1 Scheme of visual displays. (a) Visual display for trials in which the perceived extent of Spot A was measured. Spots A and B represent spots at the midpoints of their paths, always moving horizontally through equal extents. Spot B is the adjustment spot, its vertical offset adjustable to indicate the perceived horizontal extent of Spot A. For control trials, Spot "f" was also present to be fixated while the adjustment was made. Spots A and B remained aligned vertically throughout a trial. (b) Visual display for trials in which the perceived orientation of Spot C was measured. The linear orientation of Spot C varied from trial to trial. Subjects tracked Spot A and adjusted the horizontal offset of Spot B so that the orientation of an imaginary line connecting Spots A and B would be parallel to the perceived orientation of Spot C. For control trials, Spot "f" was also present to be fixated while the adjustment was made.

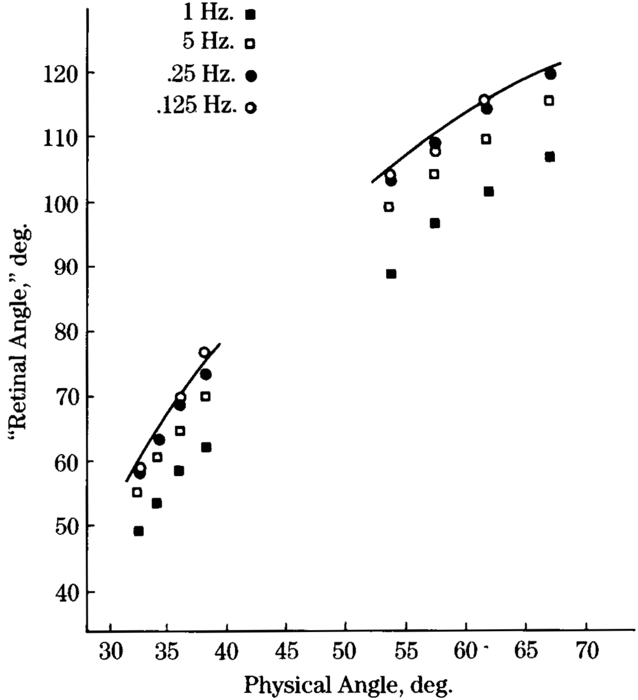

***Figure 16.2** Relationship between "retinal angle" and physical angle for Spot C at each frequency employed. Each point represents the average setting of five subjects for a given frequency and physical angle. Spot C's "retinal angle" (measured counterclockwise from the horizontal) is computed from the best straight line fitted to the "retinal information." The solid curve indicates the "retinal angle" that would correspond to perfect smooth pursuit of the eye.*

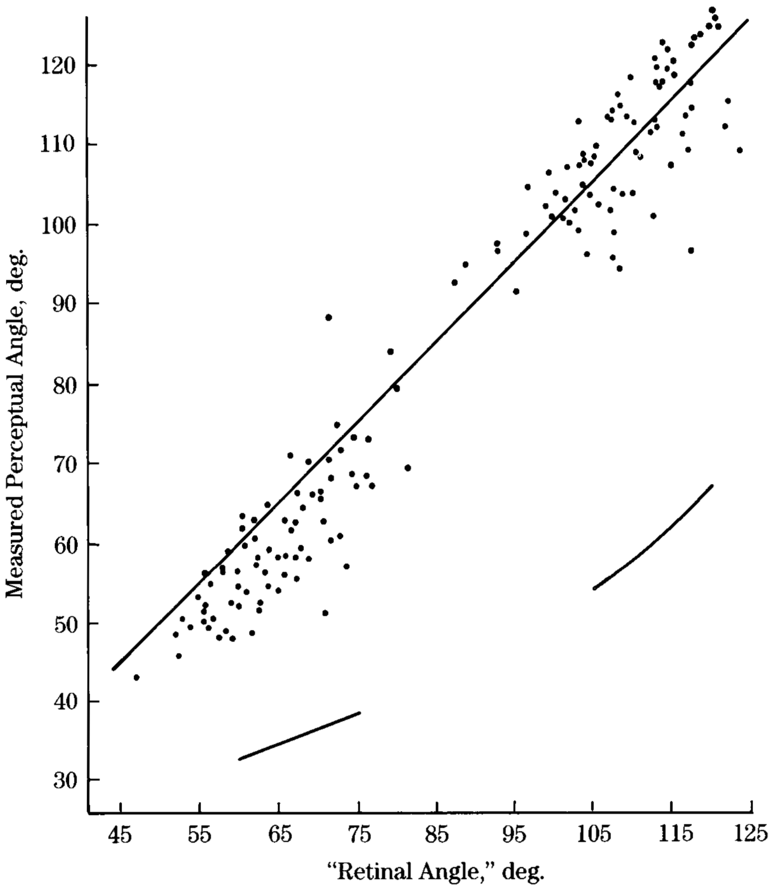

***Figure 16.3** Relationship between "retinal angle" and perceived angle for Spot C. Each point is the average of two measurements at a given physical angle. Each subject is represented by 32 points—eight physical angles at four frequencies. The straight line represents exact correspondence between perceived angle and "retinal angle." The curved lines represent exact correspondence between perceived angle and physical angle.*

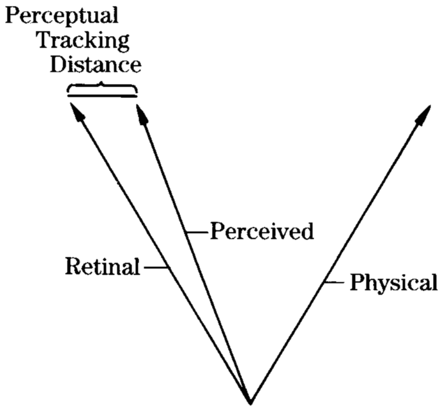

Figure 16.4 *Computation of "perceptual tracking distance." Arrows (from right to left) indicate typical physical, perceived, and retinal paths of motion of a spot of light while the eye smoothly tracks another spot of light (not shown) which is moving horizontally. The "perceptual tracking distance," which is the distance that the perceptual system assumes the eye to have moved in smooth pursuit, is the horizontal component of the difference between the perceived and retinal paths of motion.*

Table 16.1 Calculations Based on Perceived Angle: Average "Perceptual" and Actual Distance of Smooth Pursuit Eye Movement (deg. of visual angle)

	Tracked spot extent = 4°			
Hz =	1.0	0.5	0.25	0.125
"Perceptual"	0.04	−0.01	0.21	0.49
Actual	3.22	3.71	3.94	4.01
	Frequency = 0.5 Hz			
Extent =		8°	4°	2°
"Perceptual"		−0.61	−0.56	−0.29
Actual		7.45	3.72	1.88

Table 16.2. Perceived Extent of Tracked Spot (deg. of visual angle)

	Tracked spot extent = 4°			
Hz =	1.0	0.5	0.25	0.125
One frequency per day	1.34	1.29	1.28	1.31
Mixed in same day	2.33	2.35	2.61	2.76
	Frequency = 0.5 Hz			
Extent =		8°	4°	2°
One extent per day		2.05	1.26	1.04

Table 16.3. Calculations from Perceived Extent of the Tracked Spot: Average "Perceptual" and Actual Distances of Smooth Pursuit Eye Movement (deg. of visual angle)

			Tracked spot extent = 4°			
		Hz=	1.0	0.5	0.25	0.125
One frequency per day	"Perceptual"		0.30	0.97	1.46	1.77
	Actual		2.93	3.67	4.19	4.45
Mixed in same day	"Perceptual"		1.58	2.07	2.66	2.86
	Actual		3.25	3.72	4.05	4.10
			Frequency = 0.5 Hz			
		Extent =		8°	4°	2°
One extent per day	"Perceptual"			1.34	1.10	0.88
	Actual			7.28	3.73	1.85

Table 16.4. Average "Perceptual" and Actual Speed of Smooth Pursuit Eye Movement (deg. of visual angle/sec)

Computation based on		Hz = 1.0	0.5	0.25	0.125
Perceived angle	"Perceptual"	0.08	−0.01	0.10	0.12
	Actual	6.44	3.71	1.97	1.00
Perceived extent	"Perceptual"	0.60	0.97	0.73	0.44
(1 Hz/day)	Actual	5.86	3.67	2.09	1.11
Perceived extent	"Perceptual"	3.16	2.07	1.38	0.72
(mixed Hz)	Actual	6.50	3.72	2.02	1.10

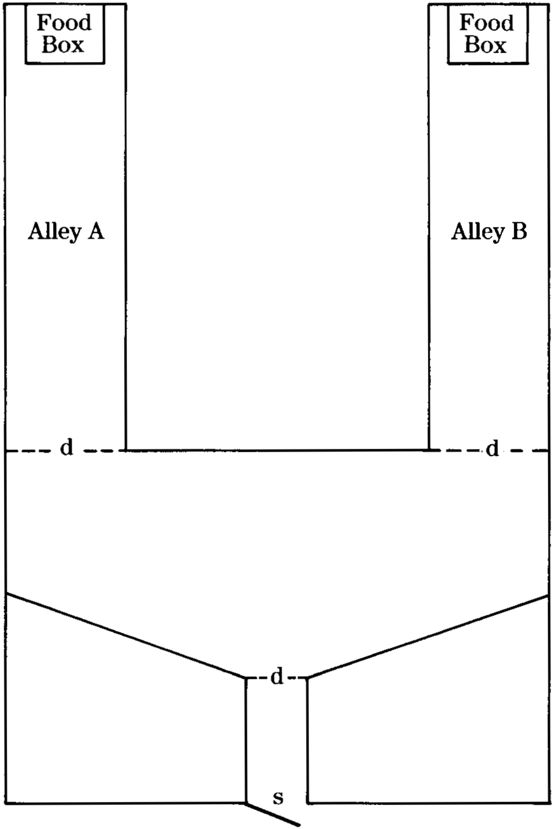

Figure 19.1 Experimental apparatus.

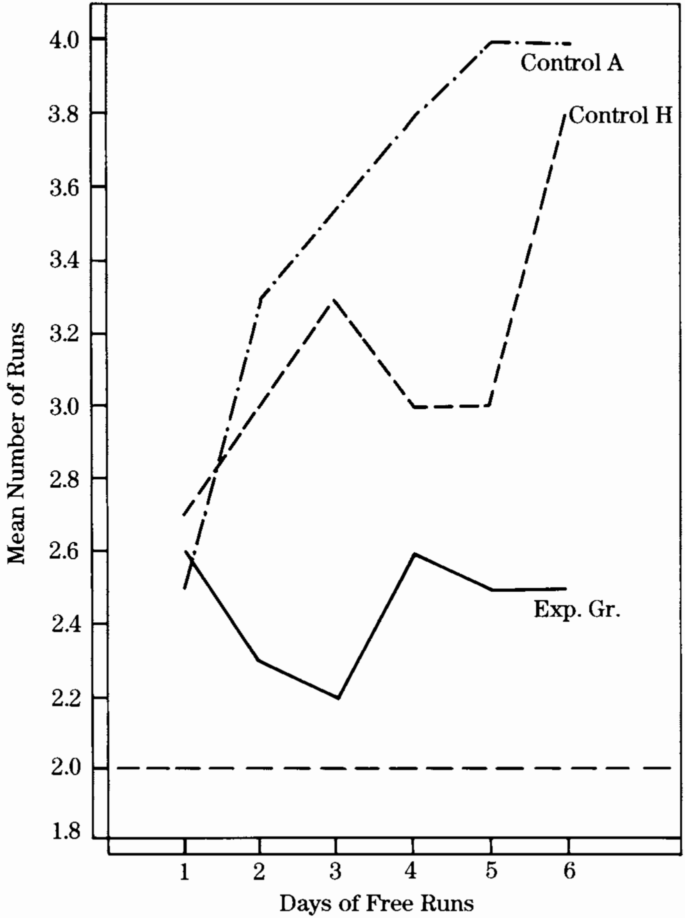

Figure 19.2 Mean number of runs to "one-minute food" on days of free runs.

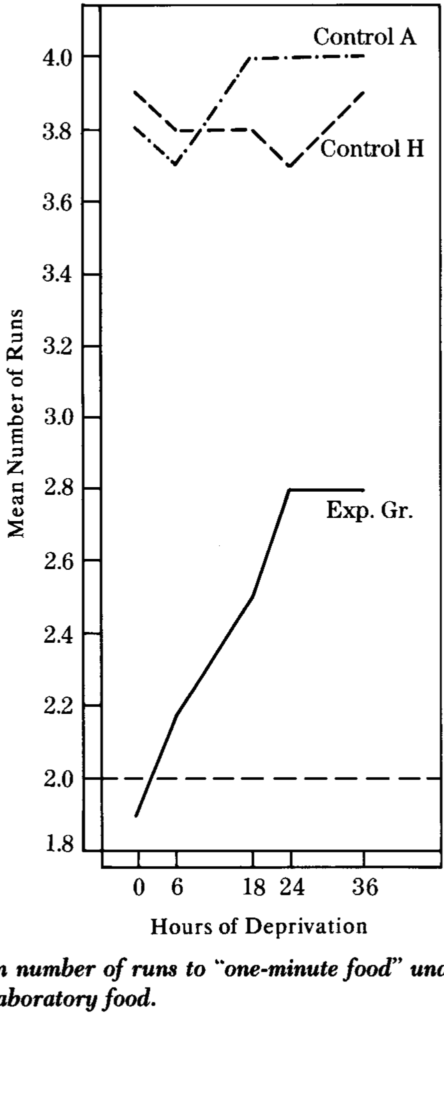

***Figure 19.3** Mean number of runs to "one-minute food" under different hours of deprivation of laboratory food.*

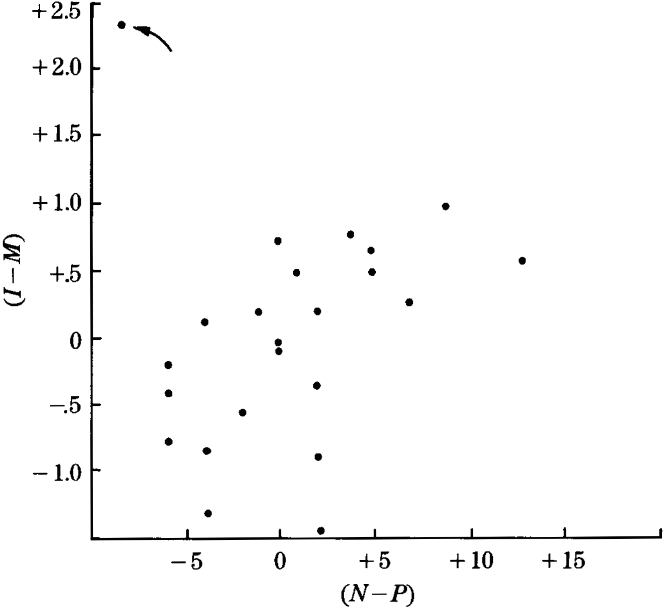

Figure 20.1 ***Relationship between reduction in restraint and ability to identify who said what.***

Table 20.1 Intercorrelations Among *I*-Errors, *M*-Errors and $N-P$

	M-Errors	$N-P$
I-errors	.24	.31
M-errors		$-.39$

Table 21.1 Opinion Change and Rejection of Communicator for the Two Experimental Conditions

	Experimental Condition	
	Opinion Orientation ($N=41$)	Personality Orientation ($N=46$)
Average change of opinion	+.40	+.63
Percentage changing appreciably[a]	20%	43%
Percentage saying communication was very or somewhat biased	80%	61%

[a] An appreciable change is defined as a change of two or more points in the direction of the communication.

Table 21.2 Opinion Change in Relation to Initial Opinion

	Experimental Condition	
	Opinion Orientation	Personality Orientation
Extreme initial opinion		
Average change	+.81	+2.31
Percentage changing appreciably	19% ($N=16$)	60% ($N=16$)
Moderate initial opinion		
Average change	+.28	−.27
Percentage changing appreciably	20% ($N=25$)	30% ($N=30$)

Table 22.1 Opinions Concerning the Link Between Smoking and Lung Cancer

Condition	Smokers	Nonsmokers	Total
Students not participating in the demonstration (Controls)	11.8 (24)[a]	11.2 (60)	11.4 (84)
Regular	13.6 (12)	13.6 (36)	13.6 (48)
Overheard	15.3 (9)	14.2 (29)	14.5 (38)

[a]Number in parentheses is the number of cases on which the cell mean is based.

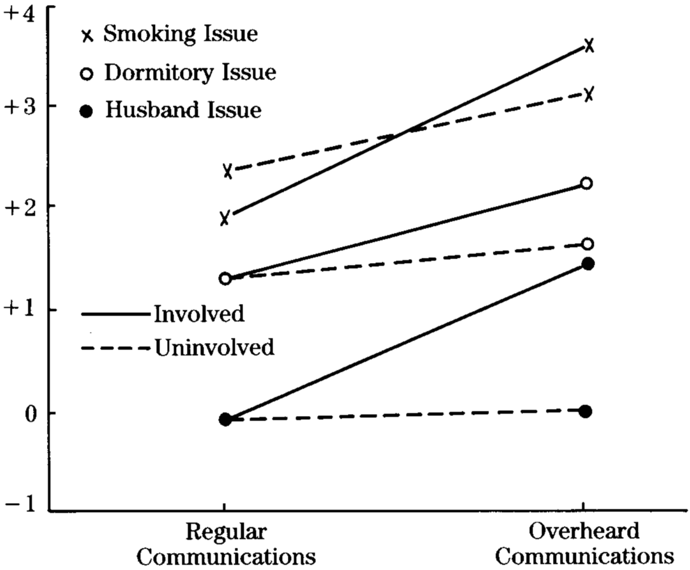

Figure 22.1 Opinion change with "regular" and "overheard" communications.

Table 22.2 Index of Agreement on Relevant and Irrelevant Issues for Married Women and Single Students

Issue	Married Women			Single Students		
	N	Mean Index Score		*N*	Mean Index Score	
Involving						
Control subjects	18	7.11[a]		18	7.57[b]	
Regular condition	20	6.17	$p = .01$, $t = 5.18$	20	8.85	$p = .02$, $t = 2.45$
		8.48		20	9.69	
Overheard condition	21					
Noninvolving						
Control subjects	18	7.20[b]		18	8.58[a]	
Regular condition	20	8.47	*ns*	20	8.17	*ns*
Overheard condition	21	8.75		20	8.49	

[a]Husband issue.

[b] Dormitory issue.

Table 23.1 Average Ratings for Fraternity Men at University of Minnesota

Condition	Attitude Toward Fraternities	Rejection of Speaker
Ordinary ($N = 33$)	26.2	6.0
Distraction ($N = 32$)	26.0	5.8

Table 23.2 Average Ratings for Fraternity Men at San Jose State College

Condition	Attitude Toward Fraternities	Rejection of Speaker
Ordinary ($N = 51$)	25.7	6.0
Distraction ($N = 48$)	24.0	5.5

3. We would like to thank Robert Martin, Dean, for his help and cooperation in arranging for the conduct of the experiment at San Jose State College.

Table 23.3 Averages for Fraternity Men and Independents at the University of Southern California

Condition	Fraternity Men: Attitude to Fraternities	Fraternity Men: Rejection of Speaker	Independents: Attitude to Fraternities	Independents: Rejection of Speaker
Control	24.8	—	17.4	—
	($N = 59$)		($N = 37$)	
Ordinary film version	24.6	8.6	16.3	7.4
	($N = 59$)		($N = 34$)	
Distracting film	23.5	8.0	16.1	7.5
	($N = 61$)		($N = 43$)	

Table 23.4 Correlations Between Attitude and Rejection of Speaker for Fraternity Men

Academic Institution	Experimental Condition	
	Ordinary Film	Distracting Film
University of Minnesota	+.04	+.36
San Jose State College	+.18	+.37
University of Southern California	+.16	+.39