Psychology 360: Personality Research
Approach Motivation

William Revelle

Department of Psychology
Northwestern University
Evanston, Illinois USA

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Outline

Achievement Motivation: history

1. Murray's Explorations in Personality (Murray, 1938)
2. McClelland and the Need for Achievement (McClelland, Atkinson, Clark & Lowell, 1953; McClelland, 1961)
3. Atkinson and theory of risk preference (Atkinson, 1957)
   - Static (Atkinson, 1957)
   - Dynamic (Atkinson & Birch, 1970)
   - Weiner and attribution theory
4. Reinvigoration: Elliot (Elliot & McGregor, 2001; Elliot & Thrash, 2002, 2010)

Murray's Explorations in Personality (Murray, 1938)

1. Intense study of small set of subjects from many different perspectives
2. Conceptual identification of needs
3. Development of Thematic Apperception Test as an alternative to self report
   - Needs drive perception and production
   - Assessment of needs based upon stories

Explorations in Personality (from the abstract)

1. Explorations in Personality, published by Oxford University Press in 1938, set forth a provocative and comprehensive agenda for the scientific study of human personality. Blending no-nonsense empiricism with the humanistic desire to understand the whole person, the book is as relevant to students of personality psychology today as it was to its many readers 70 years ago. Assisted by such eminent colleagues as Erik Erikson and Robert White, Henry Murray set forth a full theory of human personality, illustrated a bevy of creative methods for personality assessment, and presented the results of a landmark study of fifty Harvard men. Explorations in Personality is one of the great classics in 20th century psychology.
2. This reissue, enhanced by Dan McAdams' foreword, which provides a contemporary evaluation of Murray's achievement, will be of great interest to students and researchers in personality psychology and to many other behavioral scientists, scholars, and general readers who wish to understand the psychology of the whole person.

Need for Achievement

1. Desire to approach problems involving challenge and effort
2. Joy in success when over coming obstacles
3. Analogous to a hunger
   - "The little engine that could"
     - "I think I can, I think I can, I think I can"
     - Causing all the good little boys and girls to be happy
4. Can we study it, how do we measure it?

Thematic Apperception Test

1. The expression of needs and wants drives our perceptions
2. Present ambiguous stimuli and ask for production of stories
3. The stories told will reflect the underlying needs and wants
   - A boy about 18 years old is sitting at his desk in an occupied classroom. A book lies open before him but he is not looking at it. The boy rests his his forehead on one hand as he gazes pensively out towards the viewer.
   - Tell us what has happened, is happening, will happen
4. Example pictures

TAT: Story 1

1. This chap is doing some heavy meditating. He is sophomore and has reached an intellectual crisis. He cannot make up his mind. He is troubled, worried.
2. He is trying to reconcile the philosophies of Descartes and Thomas Acquinas – at his tender age of 18. He has read several books on philosophy and feels the weight of the world on his shoulders.
3. He wants to present a clear cut synthesis of these two conflicting philosophies, to satisfy his ego and to gain academic recognition from his professor.

Quotations from Brown (1965)

TAT story 2:

1. The boy in the checkered shirt whose name is Ed is in a classroom. He is supposed to be listening to the teacher.
2. Ed has been troubled by his father's drunkenness and his maltreatment of Ed's mother.
3. He thinks about this often and worries about it.
4. Ed is thinking of leaving home for awhile int he hope this might shock his parents into getting along.
5. He will leave home but will only meet further disillusionment away from home.

Quotations from Brown (1965)

The Achievement Motive 1953

This book contains a summary of research on the achievement motive conducted mainly at Wesleyan University during the period January 1, 1947, to January 1, 1952, under the continuous moral and financial support of the Office of Naval Research. It provides a practicable method of measuring one of the most important human motives, a method, moreover, which in all probability can be applied to other motives with equal success. Secondly, the book contains what we believe to be an important contribution to psychological theory–at least to the theory of motivation. Finally, the book contains a great deal of information about the achievement motive and related variables, and we feel that most readers, being interested in the total problem, will want to read the whole book. For only if they do, will they discover what we have discovered–that concentration on a limited research problem is not necessarily narrowing; it may lead ultimately into the whole of psychology. In personality theory there is inevitably a certain impatience–a desire to solve every problem at once so as to get the "whole" personality in focus. We have proceeded the other way. By concentrating on one problem, on one motive, we have found in the course of our study that we have learned not only a lot about the achievement motive but other areas of personality as well. So we feel that this book can be used as one basis for evaluating the degree to which a "piecemeal" approach to personality is profitable, an approach which proceeds to build up the total picture out of many small experiments by a slow process of going from fact to hypothesis and back to fact again. At the moment it may seem like a poor alternative to immediate, over-all assessment methods, but it is our present feeling that in the long run it will be at least as profitable.

(McClelland et al., 1953)

McClelland (1961) and The Achieving Society

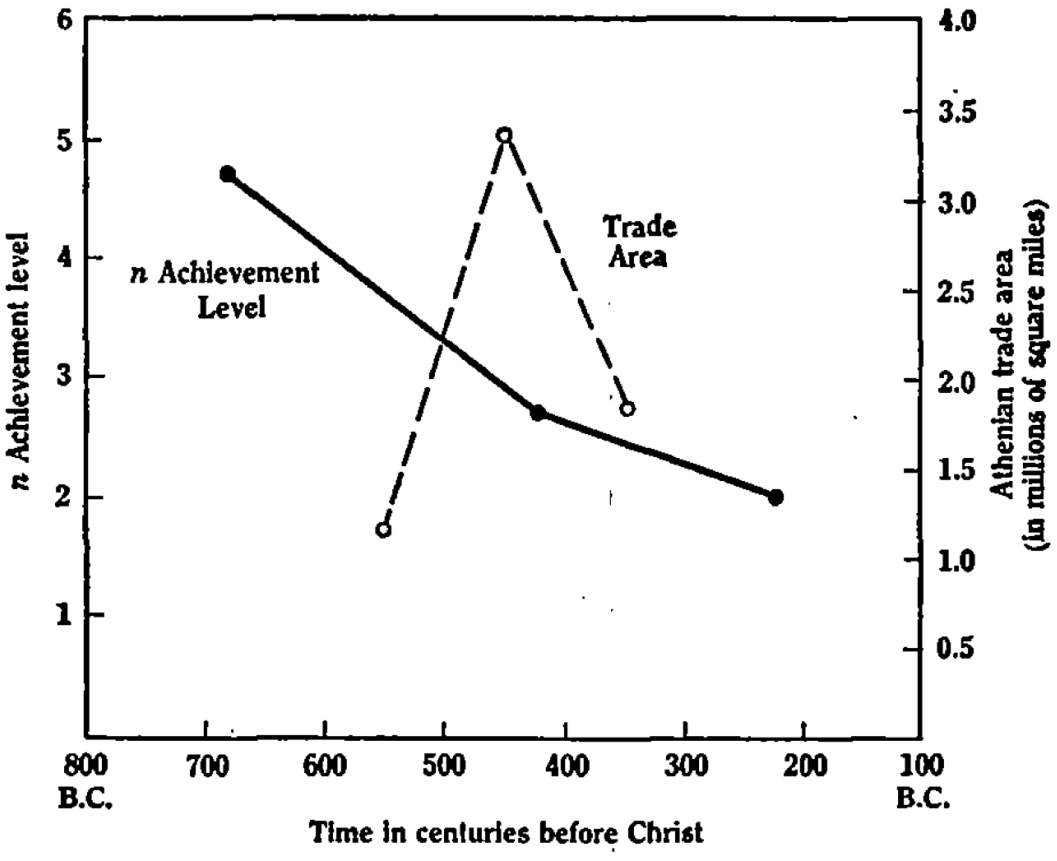
1. Chapter 1 reviews alternative theories of the rise and fall of civilizations
2. Chapter 3: Achievement and societies across time
3. N-ach and the achievement of nations
4. Cultures with a high need for achievement (rather than some other need) will strive to overcome obstacles (other nations?)
5. Greek civilization and Greek literature 900-100 b.c
6. Pre Incan Peru 800 b.c. to 700 a.d.
7. N-ach in children's primers and later economic growth
8. Teaching n-ach as a means for development

See reviews by (Davis, 1962; Weisskopf, 1962)

The rise and fall of Greece

1. Imagery of Man and his gods, of farms and estate management, public funeral celebrations
   - *Growth* Homer (9th century BCE) and Hesoid (720 BCE)
   - *Climax* (Aeschylus (525-456 BCE), Exonophon (430-354 BCE) Perciles (500-429 BCE)
   - *Decline* Aristotle (384-322 BCE) Demosthenes (384-322 BCE)
2. Measures of the rise and fall
   - Spread of trade as measured by wine jars (amphora)
   - Type of artistic embellishments
   - Ignored Alexander the Great (of Macedonia)

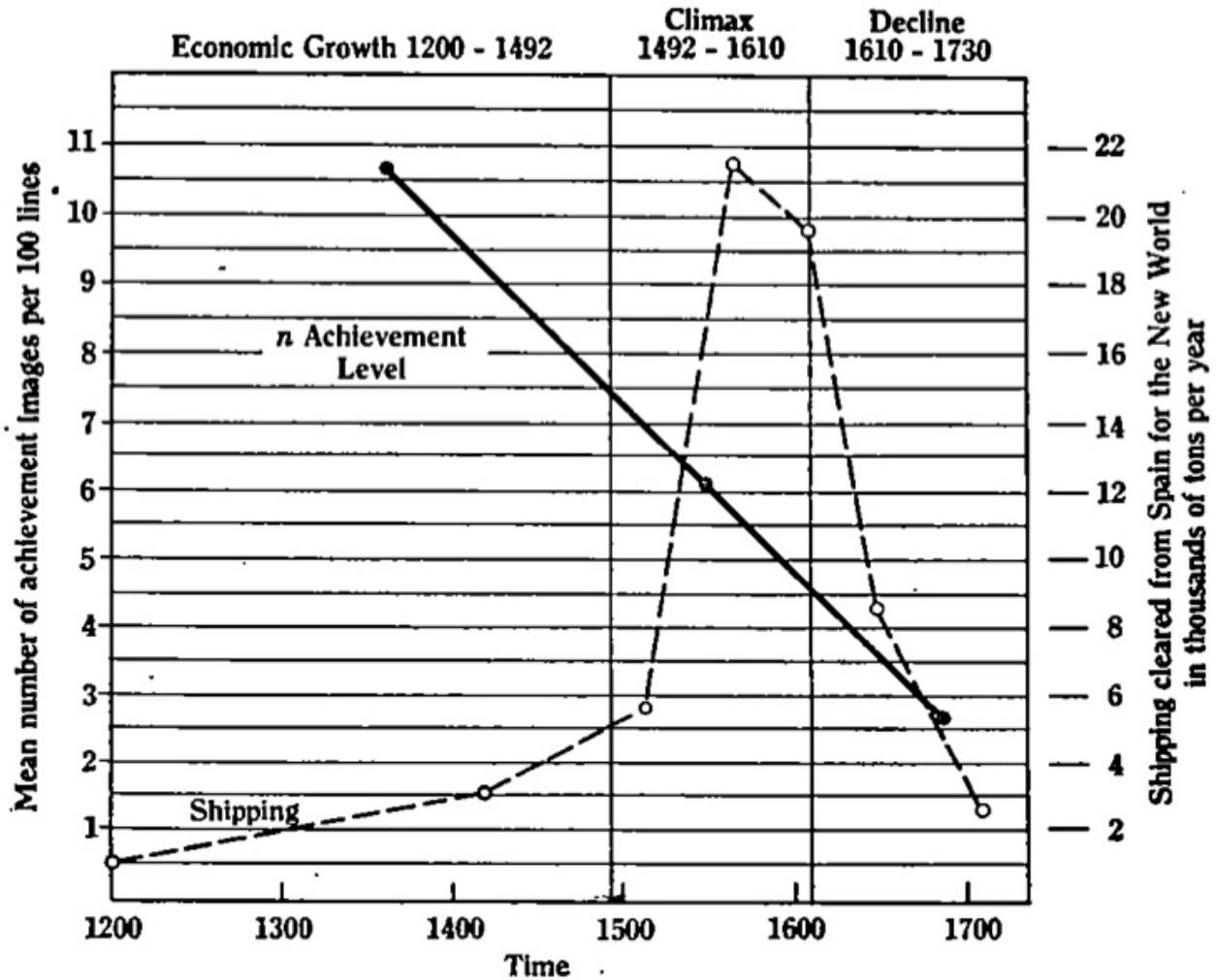
The achieving society (McClelland, 1961)



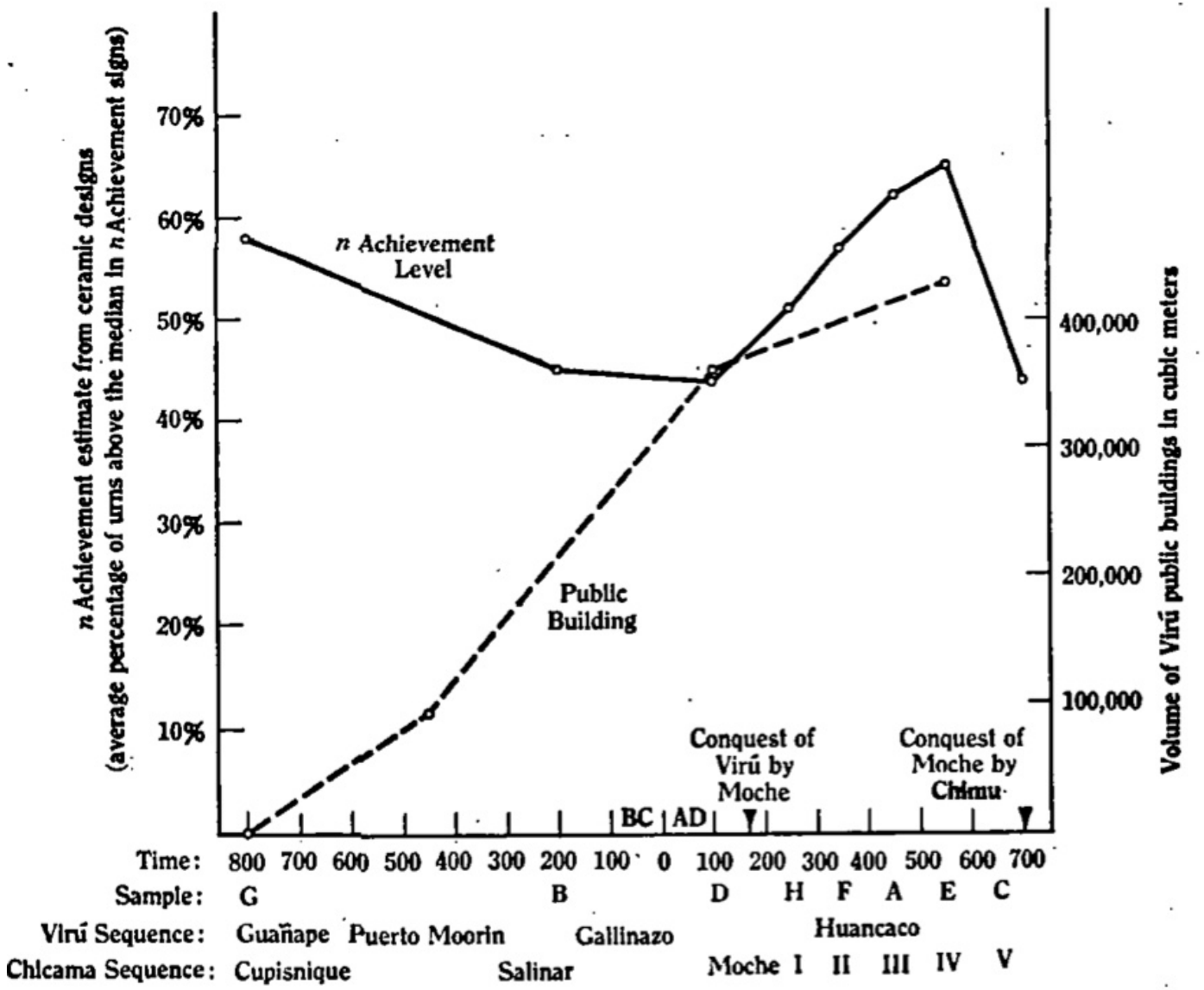
Spain in the late middle ages

1. Literature
   - Economic growth *La Gran Conquista de Ultramar Poema del Mio Cid*
   - Period of Climax Cervantes,*El Quijote de la Mancha*
   - Decline Quevedo, *Buscon* de Molina, *Los Tres Maridos* Burlados
2. Spread of empire
   - Shipping

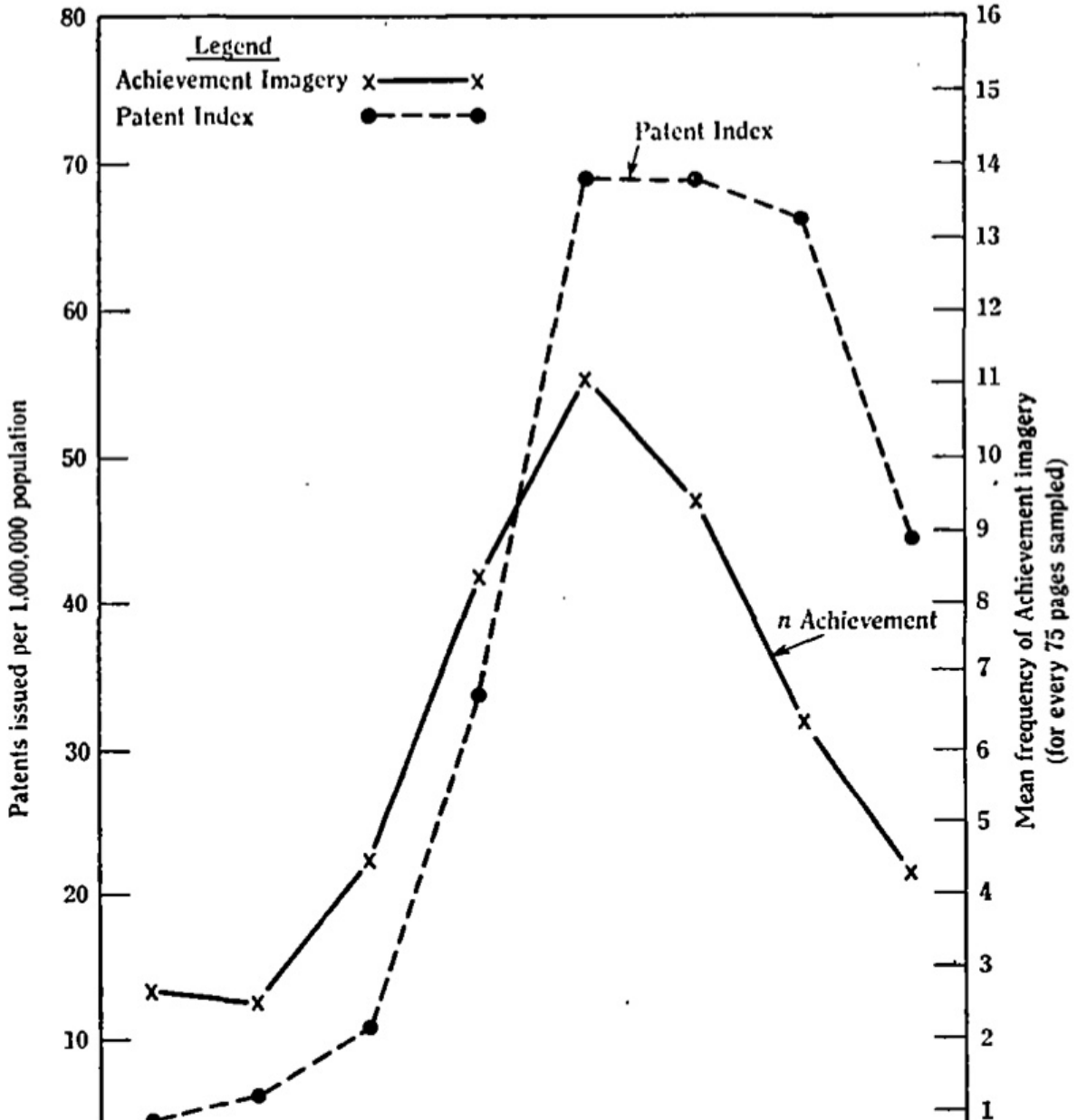
Spain: literature and economic growth



Inca breadth of empire and images in ceramic designs



U.S Patents and imagery in school primers



Issues in Measurement

Projective measurement

1. Can't trust self reports of motivations
2. Ambiguous stimuli will lead to interpretations in terms of motives
3. Hunger and interpretation of ambiguous slides
4. Achievement and stories
5. "grubby graduate student" versus "professor"

(McClelland et al., 1953)

Issues in Measurement, part II

Weiner's 3 points:

1. TAT is the best way to measure motivation
2. TAT is the worst way to measure motivation
3. People who use TAT believe 1, people who do not believe 2

McClelland on projective measurement

1. I do not trust self report.
2. Why?
3. My father was a Presbyterian minister
4. ?
5. His hard working church members would say they regretted getting drunk every week, but would continue to do it.

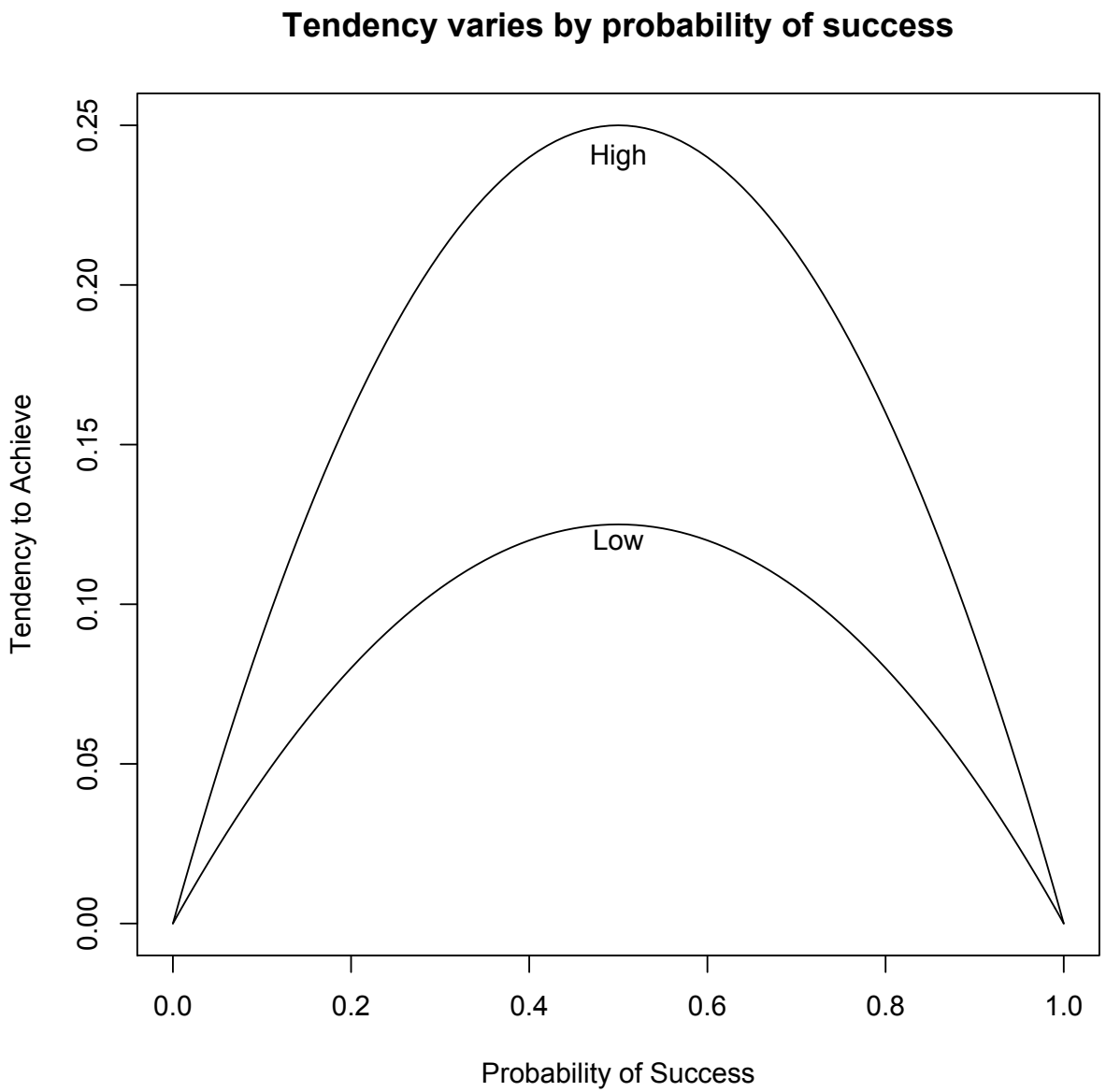
Risk preference and achievement motivation

1. Achievement motivation: the joy of success
2. Approach motivation
3. Atkinson's theory of risk preference (Atkinson, 1957, 1964)
   - An expectancy value theory of motivation (semi-cognitive)
   - Contrasted to drive models of Hull, Spence
4. Tendency to approach = Value * Expectancy
5. Value = Motive * Incentive

Specific model for achievement

1. Tendency to approach = Value * Expectancy
2. Value = Motive * Incentive
3. Expectancy = subjective probability of success (Ps)
4. Motive = Individual's need for achievement (Ms = Nach)
5. Incentive = difficulty = 1- probability of success (1 - Ps)
6. Conclusion for achievement motivation
   - Ts = Ms * Ps * (1-Ps)
   - Implies that motivational strength is quadratic function of probability of success

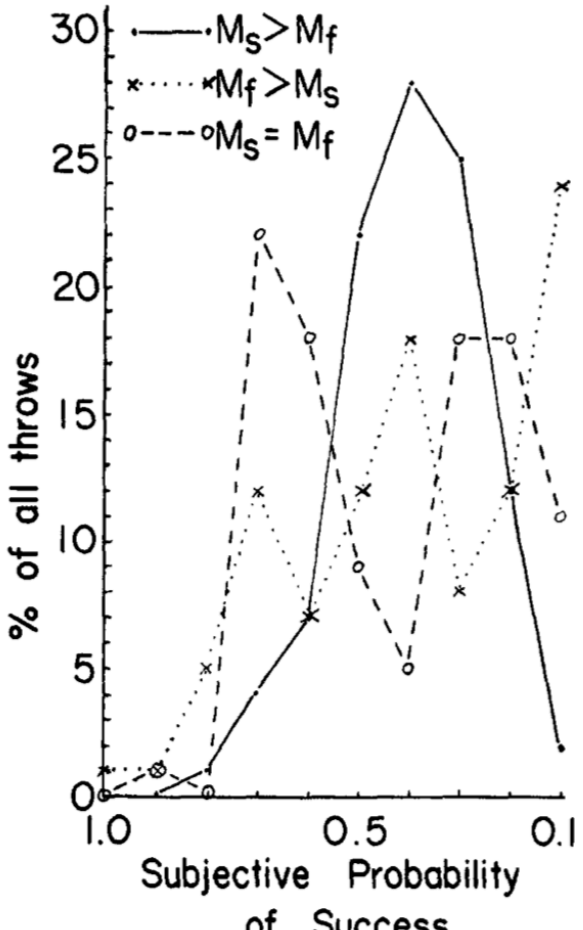
Tendency varies by probability of success and achievement motive



Expectancy Value model predicts (explains?) effort

1. Intuitive experience
   - Why do we swim/walk faster if person next to us is about our speed?
   - Don't expend much effort if other person is much slower (why waste energy?)
   - Don't try to beat Olympic swimmers (why waste energy?)
2. Experimental Evidence: The Ring Toss
   - Motivation and risk preference: the ring toss (Hamilton, 1974)
   - Heinz Heckhausen (see subsequent work by Heckhausen (1991)
   - Although inverted U, did not peak at .5 difficulty
   - Most preferred level of task difficulty around .3 to .4

Hamilton, 1974 ring toss

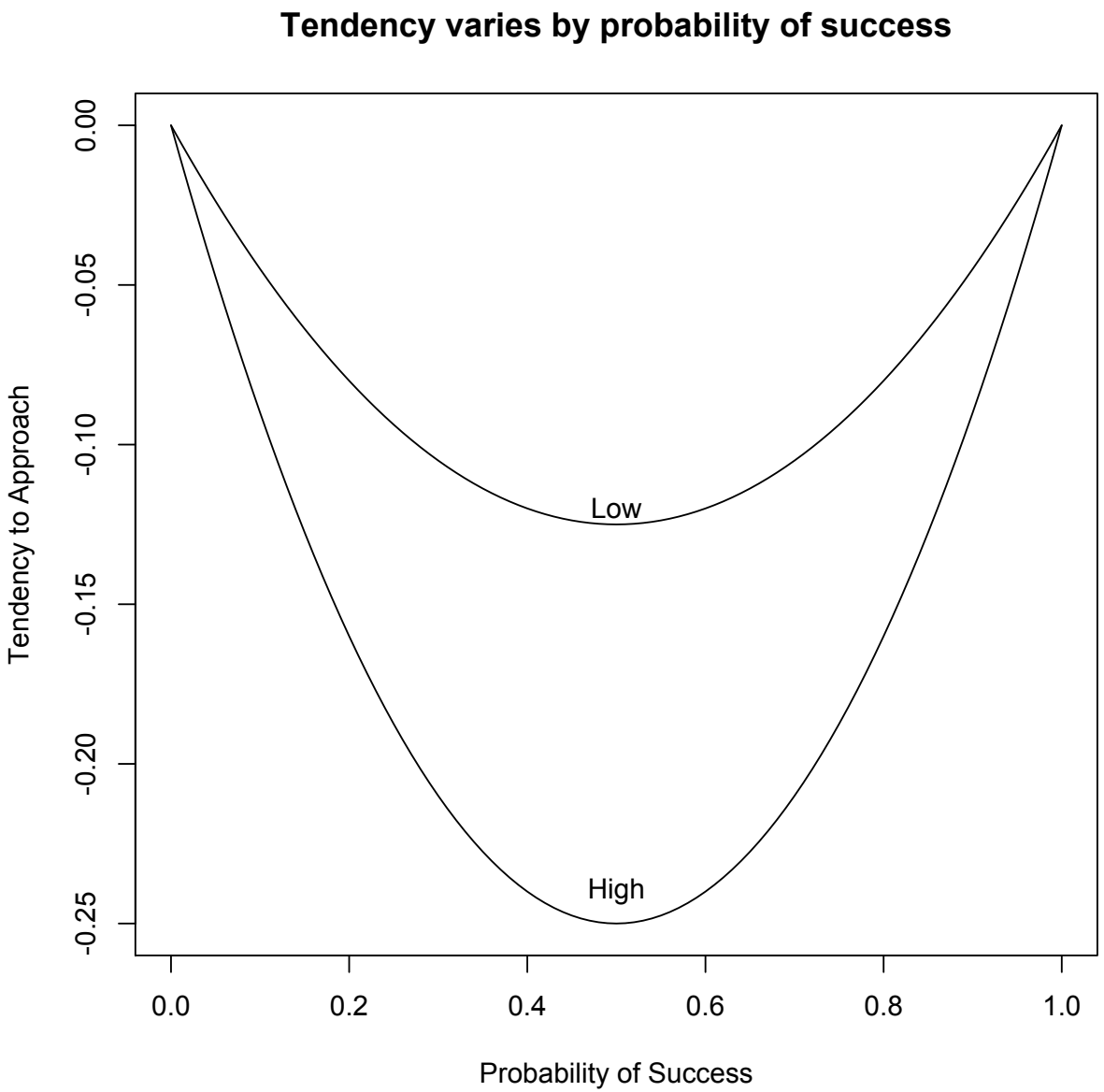


Fear of Failure

1. In parallel with desire to approach is the fear of failure
2. Fear of failure = Anxiety?
3. Fear of failure and general avoidance motivation
4. If we don't win, we lose.
5. The probability of failure is $p_f = 1 - p_{success}$
6. Motive to Avoid Failure = fear of failure = M_{af}
7. The pain of failure is greater the easier the task $(-p_s)$

$$T_{af} = M_{af} * P_f * (-P_s) = M_{af}(1 - p_s) * (-p_s)$$

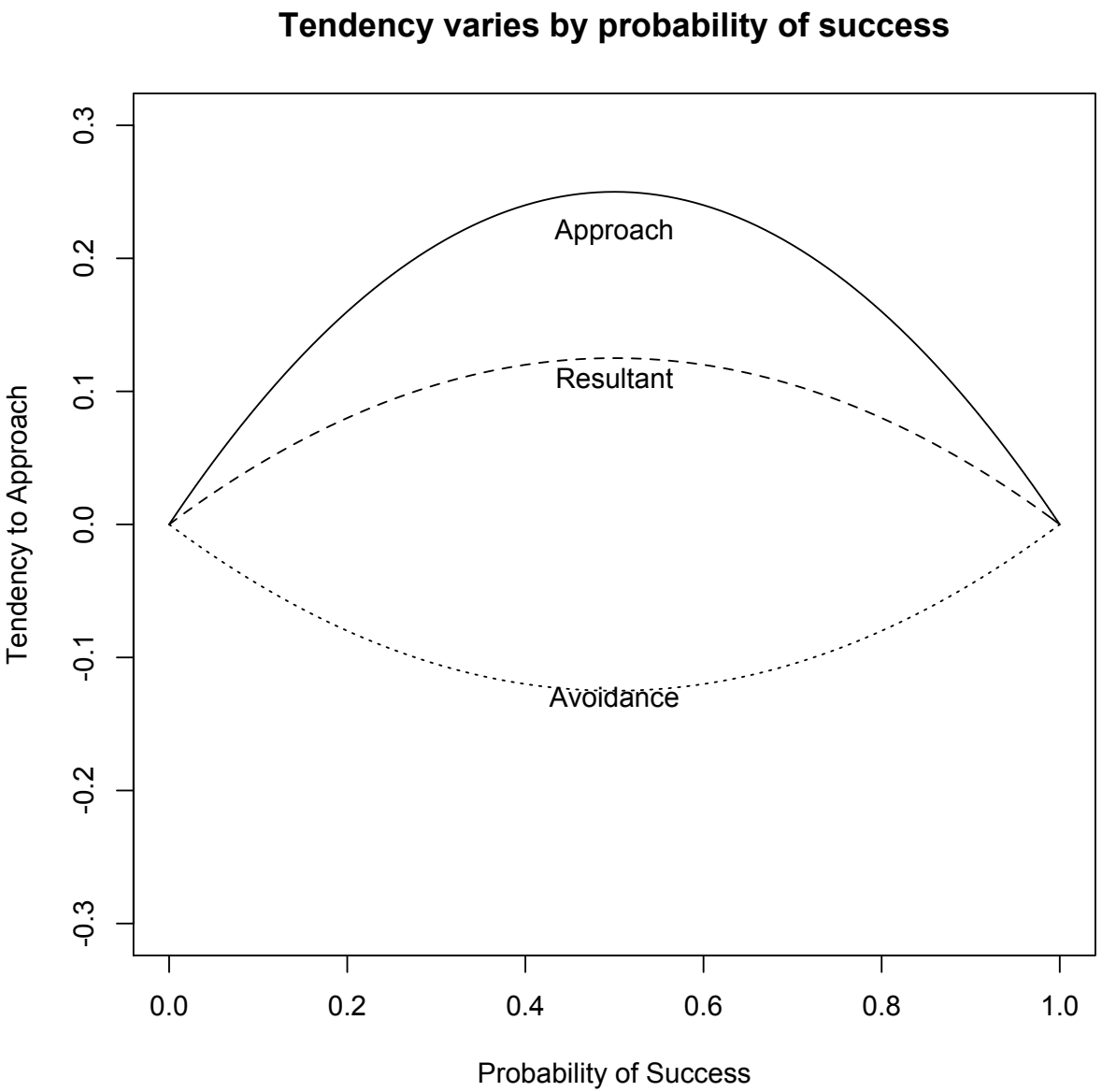
Tendency to approach as function of fear of failure



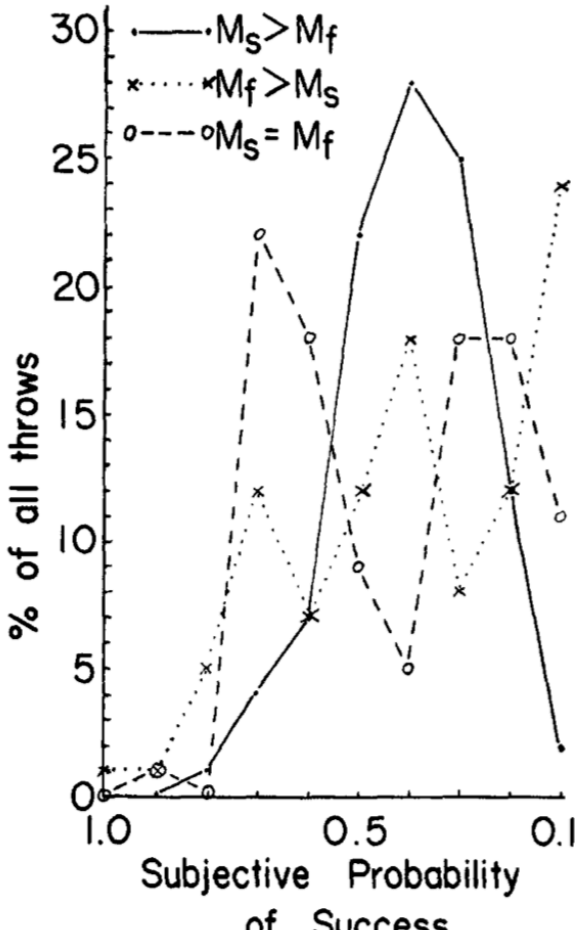
Resultant achievement is Approach - Avoid

1. Resultant Achievement motivation should be a function of Approach motives - avoidance motives
2. This implies Resultant tendency = tendency to engage in a task for success + tendency to avoid failing (negative) + extrinsic tendencies
3. Tr =Ts +Taf +Text
4. Tr = Ms * Ps * (1-Ps) + Maf *(1-Ps) * (-Ps)
5. Tr = (Ms-Maf) * (1-Ps)*(Ps)

Resultant is (Ms- Maf) * Ps * (1-Ps)

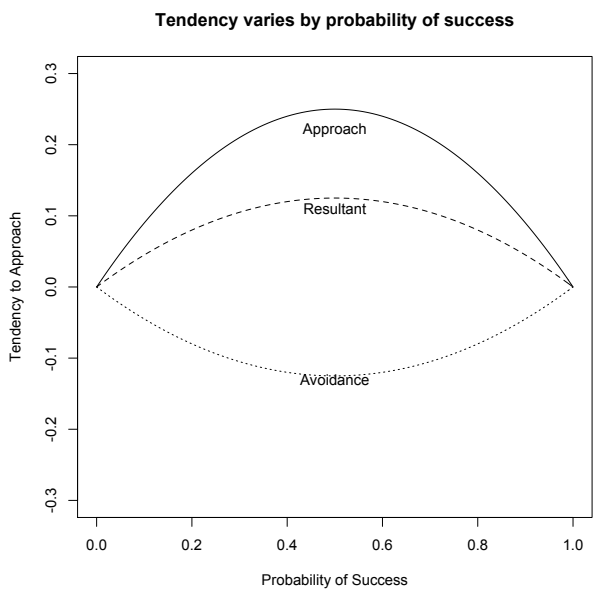


Compare again to Hamilton



Motivation, risk preference and persistence under failiure

1. Does persistence vary as a function of personality and task difficulty? (Feather, 1961)
2. Hi and Low Resultant Motivation ? Hi resultant (Nach> Maf)
3. Lo resultant (Nach <Maf)
4. Failure on tasks said to be moderately easy (p = .7) or very hard (p = .05)



Motivation, risk preference and persistence under failure

	Easy (p=.7)	Hard (p=.05)
High Nach	.75	.22
Low Nach	.33	.75

1. High resultant need achievement persist in face of failure on relatively easy tasks
2. But not in presence of really hard tasks.
3. Persistence following failure depends upon estimation of task difficulty as well as the alternative task.

Feather (1961), see also Feather (1963, 1966)

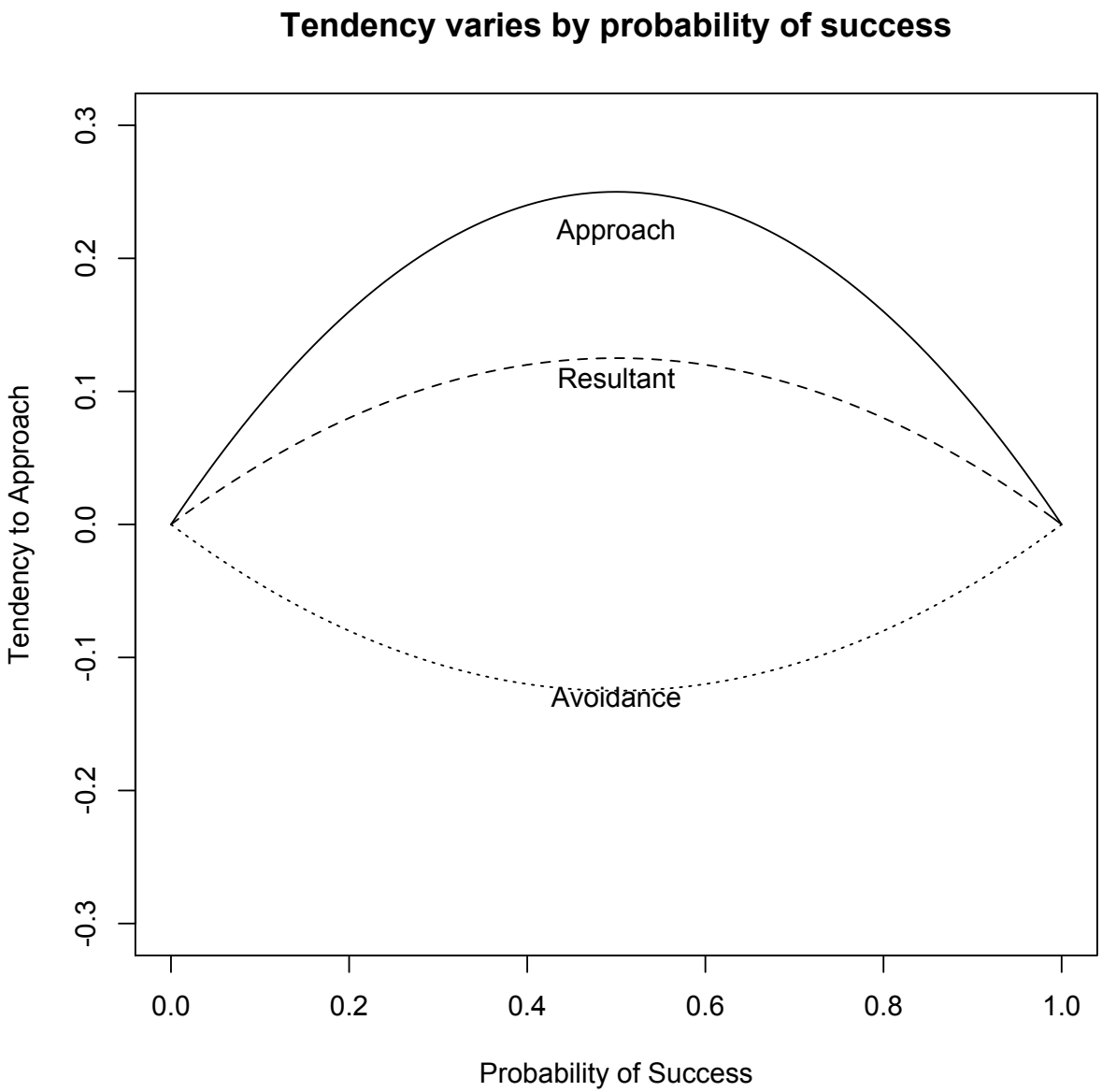
But how replicable is this effect? Very small samples, noisy results.

Intutitively plausible, but how strong is the evidence?

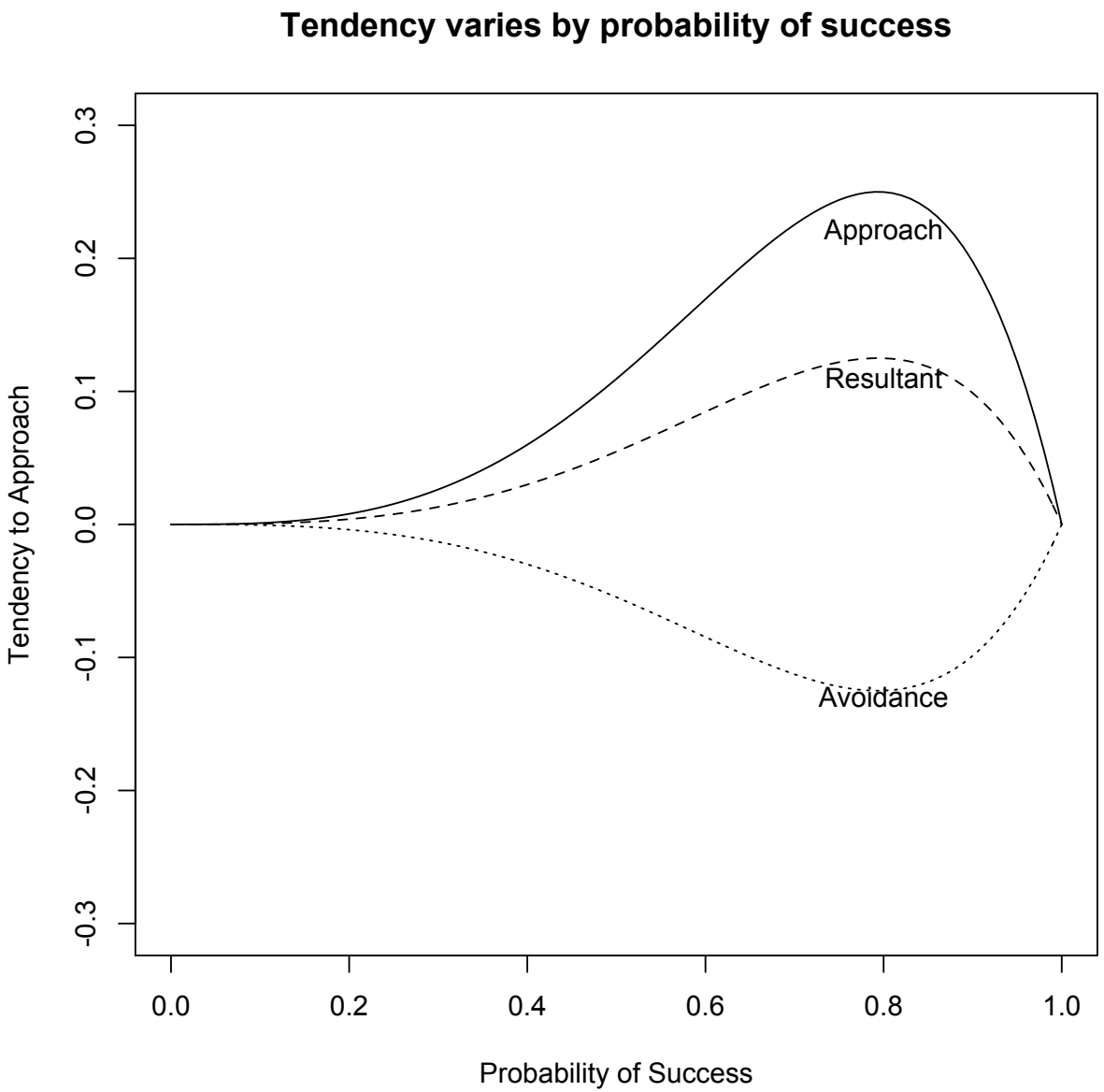
Life is not a ring toss Raynor (1969)

1. Why do students work so hard?
2. Life is not a ring toss - tasks are contingent
3. Probability of success at event$_i$ $= \Pi p_i = p_1 * p_2 ... p_n$
4. Consider a freshman starting psychology with p $= .9$
   - 110 201 205 215 360 398 grad MA PhD job tenure full ?
   - .9 .81 .73 .66 .59 .53 .48 .43 .39 .35 .31 .27
5. Tendency to engage in a task = sum of tendencies for tasks contingent upon that task
6. $T_r n = \Sigma(M_s - M_{af}) * P_{s_{ic}} * (1 - P_{s_{ic}}) + T_{ext}$

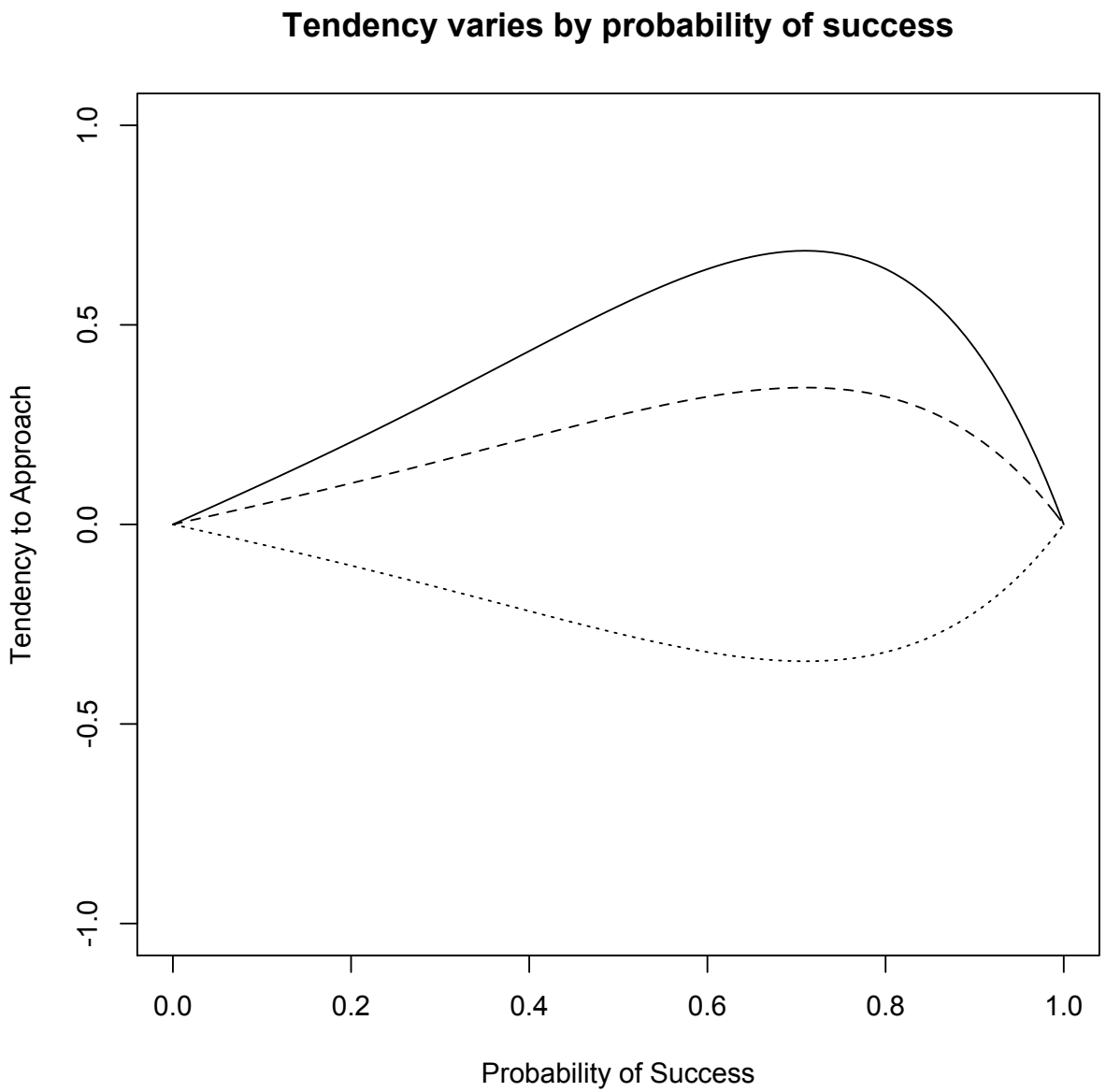
Tendency by Ps and Ms and Maf– one Trial



Tendency by Ps and Ms and Maf– 3 Contingent Trials



Cumulative Tendency by Ps and Ms and Maf– 3 Contingent Trials



Evidence for Raynor (1969) contingent paths

Grade point in introductory Psychology (Majors versus distro)

		Motive to achieve	
Study 1		Low	High
Importance to Future			
	High (major)	2.9	3.4
	Low (distro)	3.0	2.6
Study 2			
	High	3.0	3.5
	Low	3.4	3.4

Implications of contingent paths

1. High achievers should set distant goals
2. Low achievers should set immediate goals
3. Preferences for task difficulty should vary as a function of number of outcomes contingent upon particular task outcome

Further Explorations: curvilinear models

1. Does task performance vary as a curvilinear function of task difficulty and motivation
2. Is it overachievement or under performance?
3. Can one be too motivated?
4. Application of Hebb/Yerkes Dodson with "motivation"

Class performance and test scores: a simple model

Assumptions

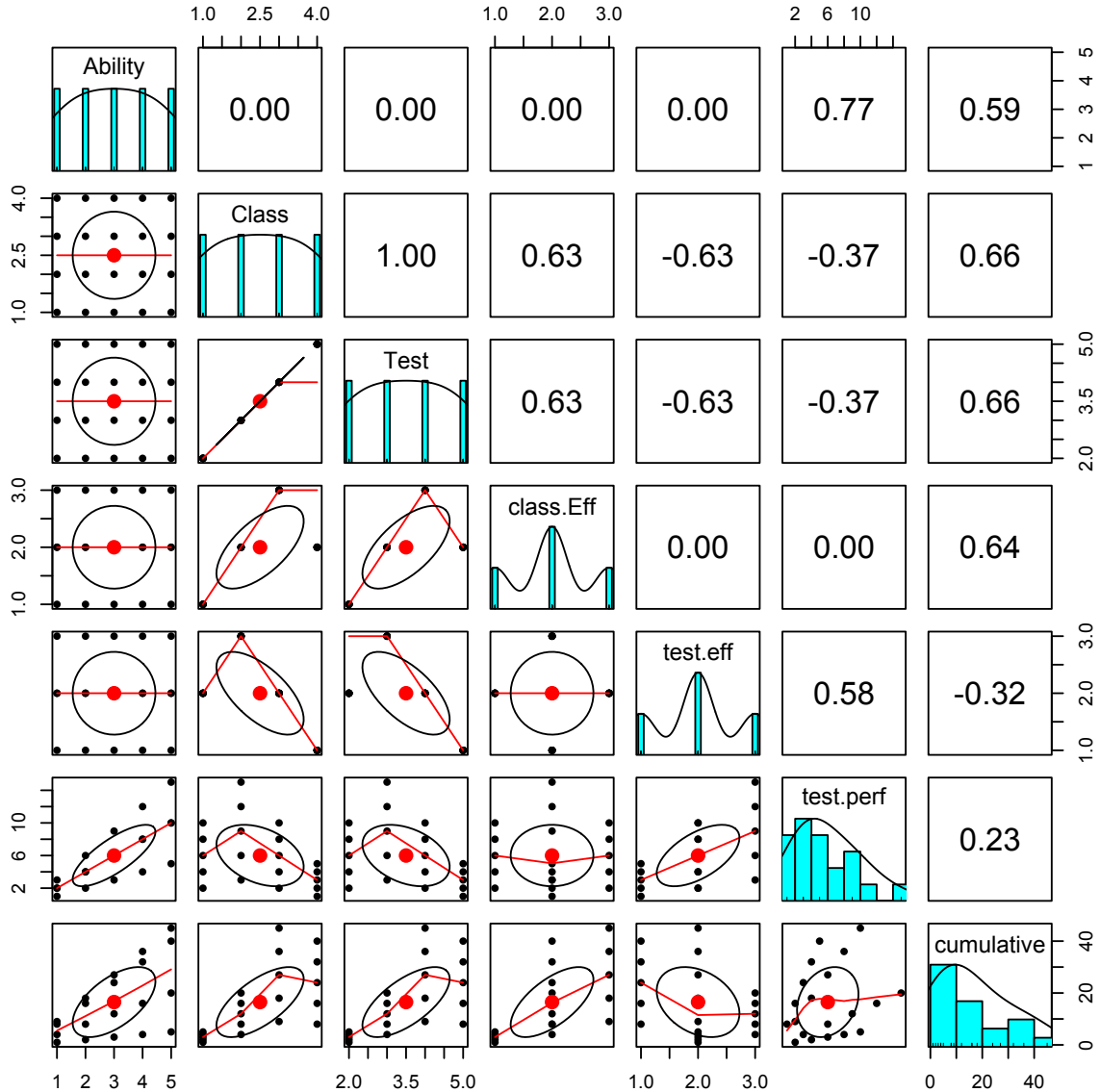
1. Assume variation in ability 1-5
2. Assume motivation in class varies 1-4
3. Assume motivation in test situation = resting (class) + 1
4. Assume efficiency varies as inverted U of motivation (max at 3)
5. Assume test performance=ability*efficiency
6. Assume cumulative performance =ability*efficiency* time spent

What is the relationship between test performance and cumulative achievement?

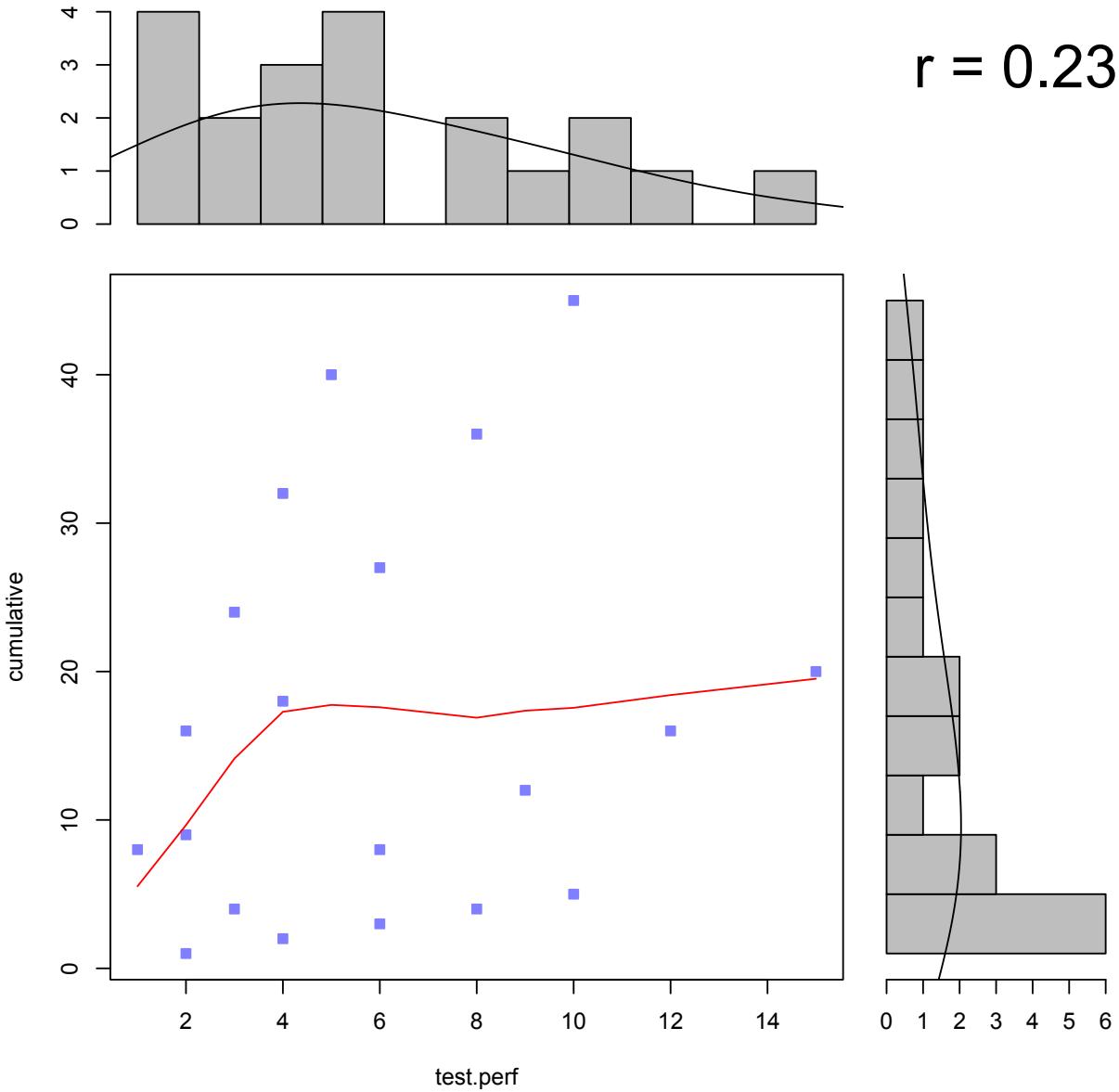
Hypothetical data: The myth of the over-achiever

		Motivation		Efficiency		Performance	
Student	Ability	Class	Test	Class	Test	Test	Cumulative
1	1	1	2	1	2	2	1
2	2	1	2	1	2	4	2
3	3	1	2	1	2	6	3
4	4	1	2	1	2	8	4
5	5	1	2	1	2	10	5
6	1	2	3	2	3	3	4
7	2	2	3	2	3	6	8
8	3	2	3	2	3	9	12
9	4	2	3	2	3	12	16
10	5	2	3	2	3	15	20
11	1	3	4	3	2	2	9
12	2	3	4	3	2	4	18
13	3	3	4	3	2	6	27
14	4	3	4	3	2	8	36
15	5	3	4	3	2	10	45
16	1	4	5	2	1	1	8
17	2	4	5	2	1	2	16
18	3	4	5	2	1	3	24
19	4	4	5	2	1	4	32
20	5	4	5	2	1	5	40

The complex relationship of ability, test performance and cumulative performance



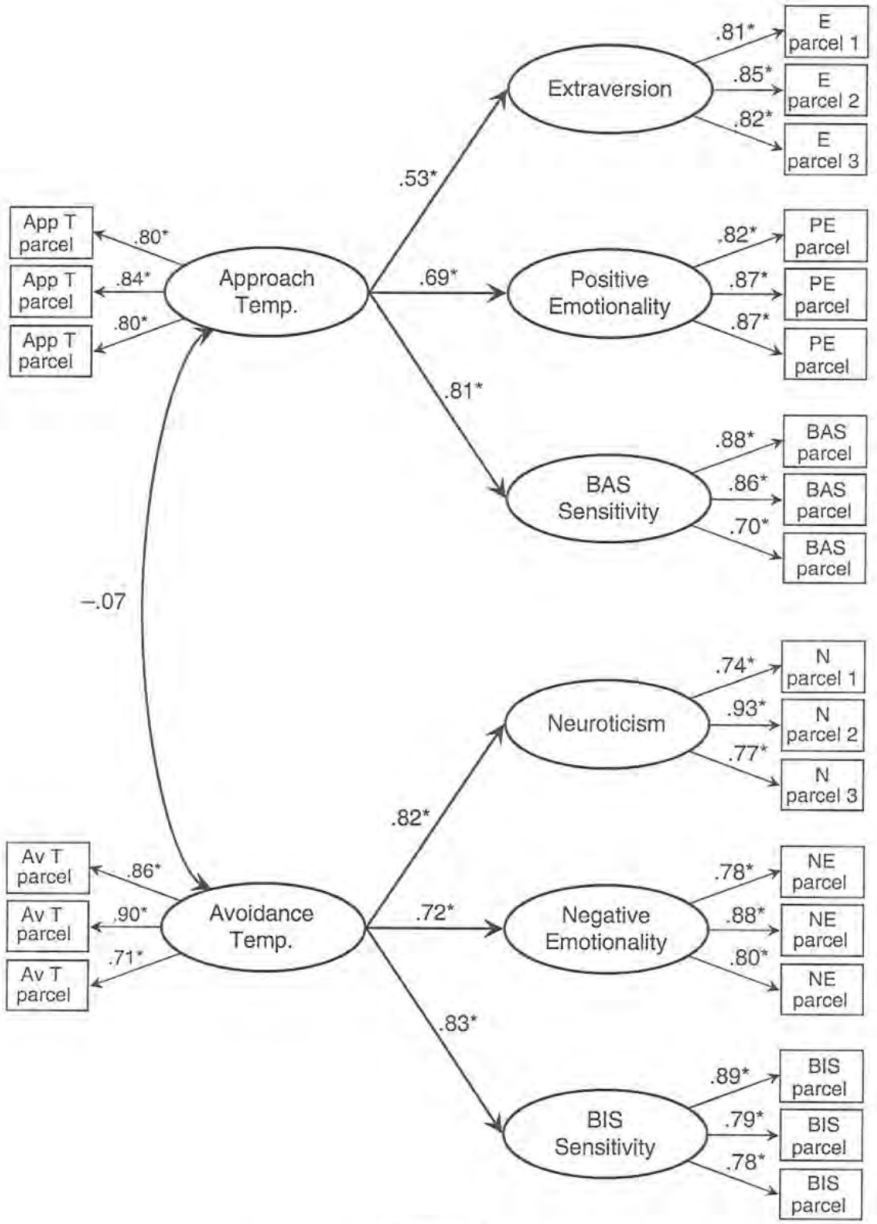
Cumulative performance and test performance



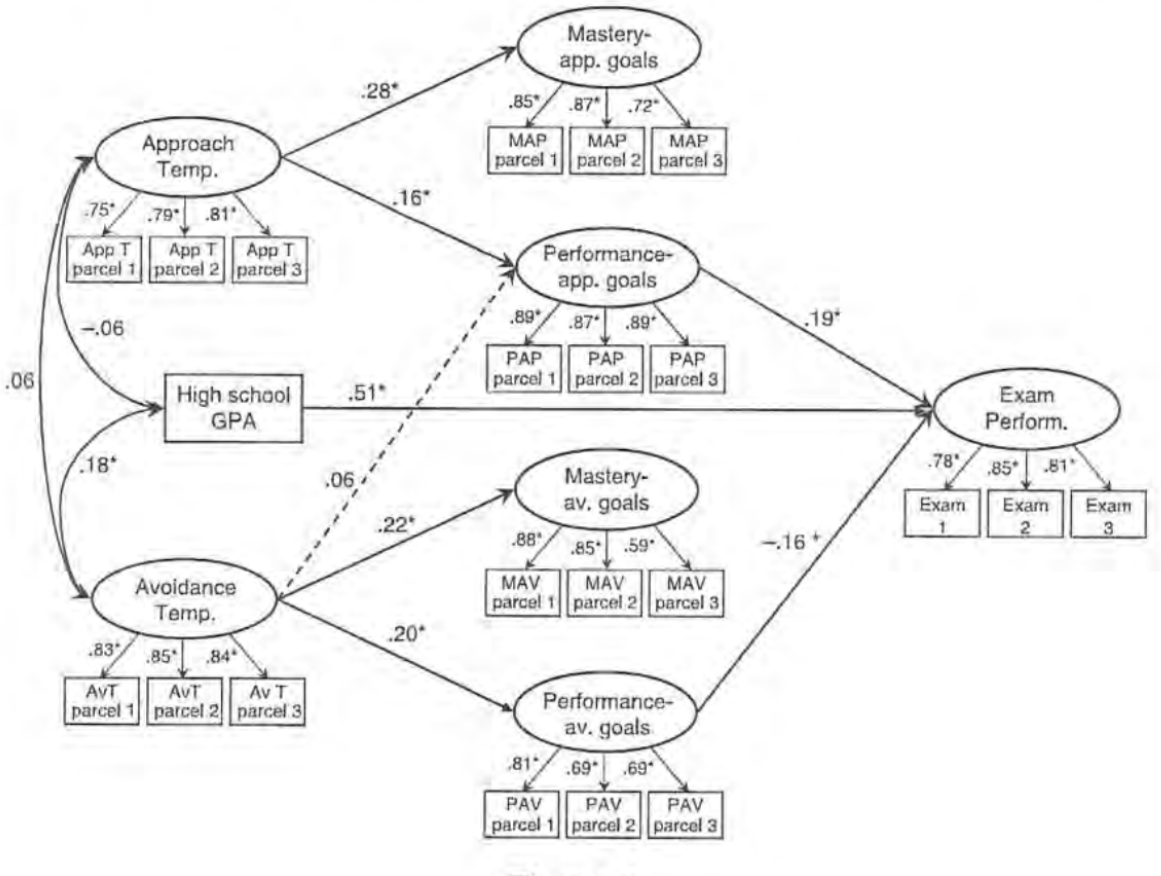
Andrew Elliot and Approach/Avoidance motivation

1. Avoidance personal goals and subjective well-being (Elliot, Sheldon & Church, 1997)
2. A hierarchical model of approach and avoidance achievement motivation (Elliot & Church, 1997)
3. Test Anxiety and the hierarchical model of approach and avoidance motivation (Elliot & McGregor, 1999)
4. Approach-avoidance motivation in personality: Approach-avoidance temperaments and goals (Elliot & Thrash, 2002)
5. Achievement goals, reasons for goal pursuit, and achievement goal complexes as predictors of beneficial outcomes: Is the influence of goals reducible to reasons (Sommet & Elliot, 2017)

Components of Approach and Avoidance Elliot & Thrash (2002)



Examination Performance Elliot & Thrash (2002)



(Sommet & Elliot, 2017)

1. The present research seeks to disentangle the influence of "what" individuals want to achieve (type of goals), "why" they want to achieve (type of reasons), and specific "what" and "why" combinations (type of goal-reason combinations).
2. In four studies, we showed that mastery goals (striving for task mastery), autonomous reasons (striving because it is stimulating and valued), and a specific mastery goal – autonomous reason combination (striving for task mastery because it is stimulating and valued) all made separate positive contributions to beneficial achievement-relevant outcomes (e.g., interest, positive emotion, deep learning).
3. Comparable results were observed for performance goals (striving to outperform others) and a specific performance goal – autonomous reason combination (striving to outperform others because it is stimulating and valuable).
4. The present findings indicate that both type of goals and type of reasons are important for a full understanding of achievement motivation.

Dynamic Theory of achievement

1. Recognition of inertial properties of motivation
2. Motives persist until satisfied
   - Lewin and the "Herr Ober effect?
   - (Zeigarnik, 1927) and the motive for completion
     - Completed tasks
     - Uncompleted tasks
   - Replications of the effect by Atkinson (1953); Baddeley (1963)
3. This notion of motivational inertia is a fundamental postulate of dynamic models (Revelle & Wilt, 2021)
4. (Weiner & Schneider, 1971), carry over effects of feedback

Trial to trial carryover effects

1. Weiner and Schneider carryover and interpretation of success and failure
2. Classic result from anxiety theory
   - Success and failure on verbal learning tasks
   - Anxiety inhibits performance on hard tasks
   - Anxiety facilitates performance on easy task
3. With the assumption that Resultant tendency is the difference between Approach and Avoidance: T res = Tapp -T avoid
4. But Weiner & Schneider (1971) showed that this is probably due to implicit or explicit feedback

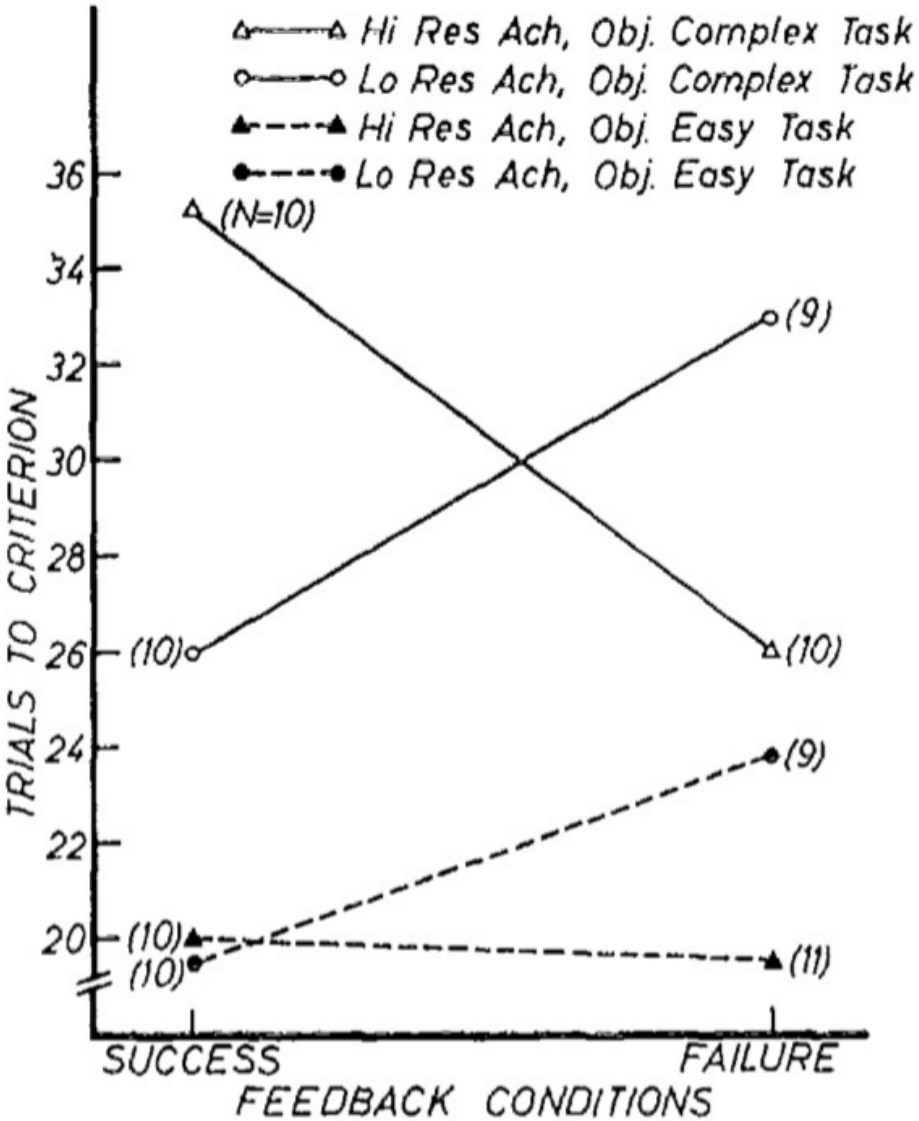
Weiner & Schneider (1971)

1. Task: Learn 13 CVC trigrams
2. Easy List: high between item differentiation
   e.g. PAK, BIM, MOT
3. Difficult list: low between item differentiation
   e.g. HOV, VOV, RIV, MIV
4. Lists presented as serial anticipation (implicit feedback?)
5. Subjects were high and low resultant Achievement Motivation (Nach - Naf)
6. Feedback - list is (easy/hard) you are doing better/worse than others

Achievement Motivation, Anxiety and Task Difficulty

1. Many studies have replicated the original Spence, Farber & McFann (1956) study that shows anxiety facilitates easy task, hinders difficult tasks
2. However, all of these have used a serial anticipation technique that confounds task difficulty with implicit feedback to the subject.
3. Is it feedback or task difficulty that is most important?
4. The Weiner & Schneider (1971) study shows that no matter how many times you replicate an effect, if it is flawed, it remains flawed.

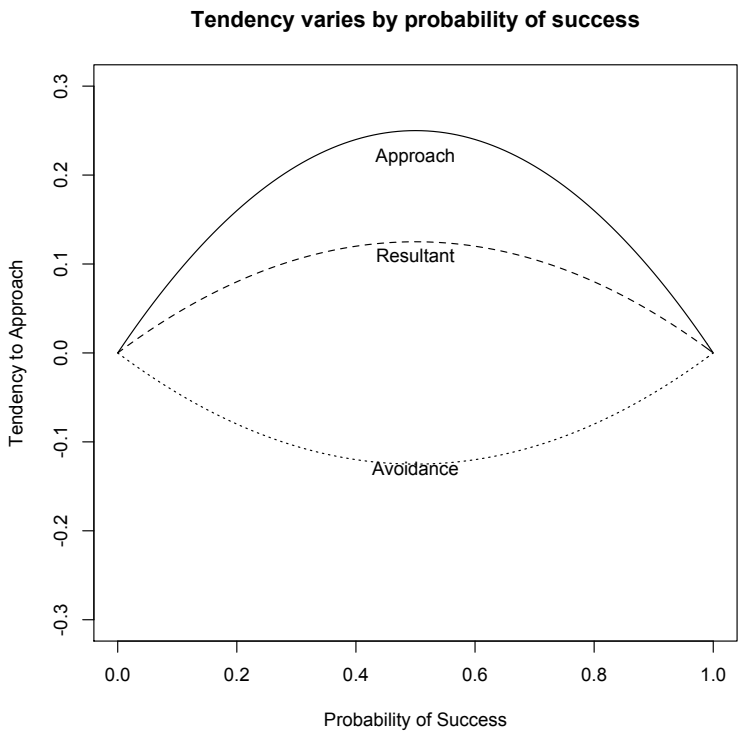
Weiner & Schneider (1971)

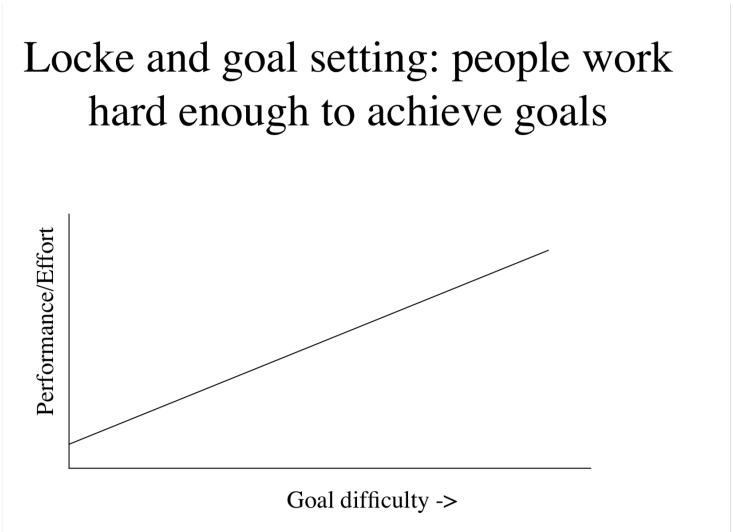


Two theories of performance

1. Atkinson- Risk Preference and achievement theory predicts curvilinear relationship between task difficulty and performance
2. Locke (1968) - Goal Theory predicts linear relationship between difficulty and performance
3. How can we reconcile these?

Atkinson (1957) versus Locke (1968)





(Atkinson, 1957; Locke, 1968)

Steps towards dynamics

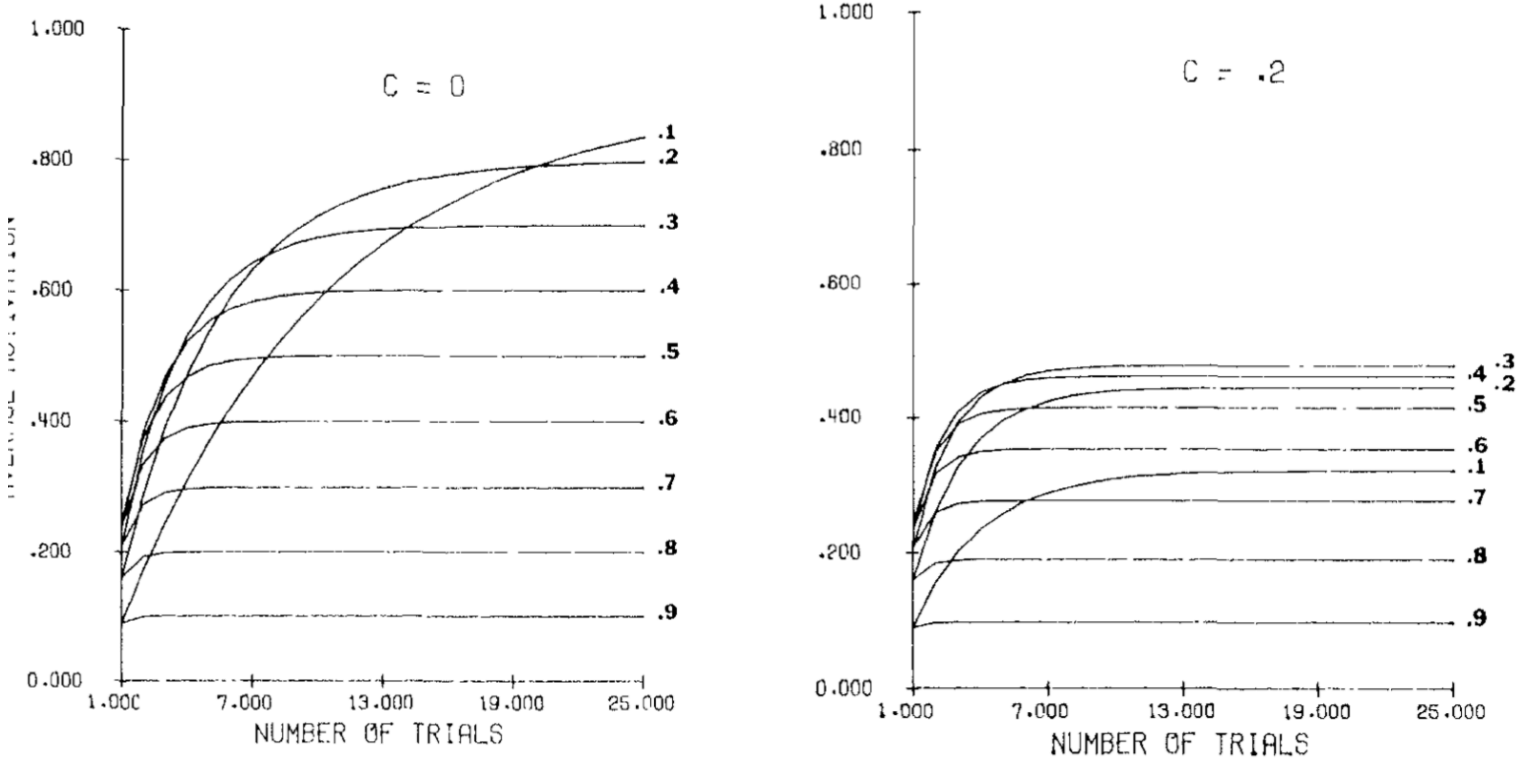
1. How to reconcile the simple try harder the harder the problem (goal setting, see Locke (1968)) model with Atkinson (1957) model?
2. Hard tasks take longer to complete and if there is carryover from trial to trial, then motivation should accumulate (Revelle & Michaels, 1976)
3. See also Kuhl & Blankenship (1979) for full dynamic model

Steps towards dynamics, the carryover of motivation

1. Effort on trial 1: (Ms-Maf)*(Ps)*(1-Ps)
2. Effort on Trial 2 is a function of outcome of trial 1:
   - If success on trial 1, then effort T2 = T1
   - If failure on trial 2, then motivation from trial 1 carries over to trial 2: Effort T2 = T1 + carryover
   - Assume perfect carryover T2 = T1*p + 2T1*(1-p) ? If at first you don?t succeed, try, try again.
3. Expected number of trials until success (the waiting time) is 1/p.

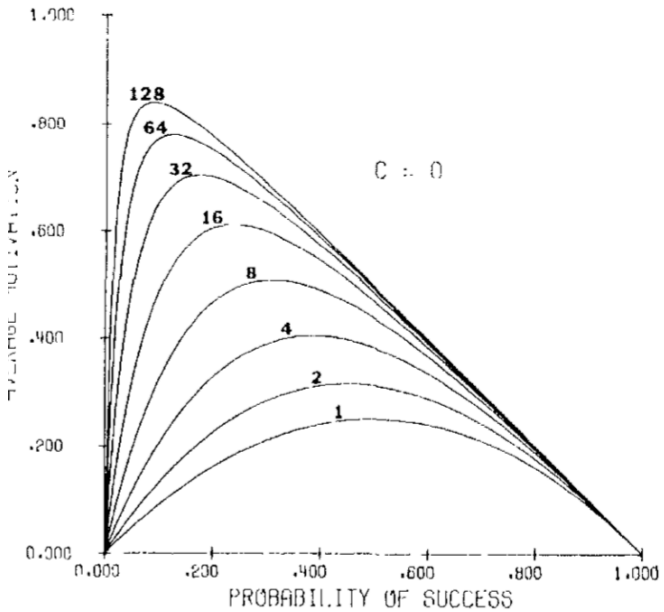
Motive over trials varies by prob of success

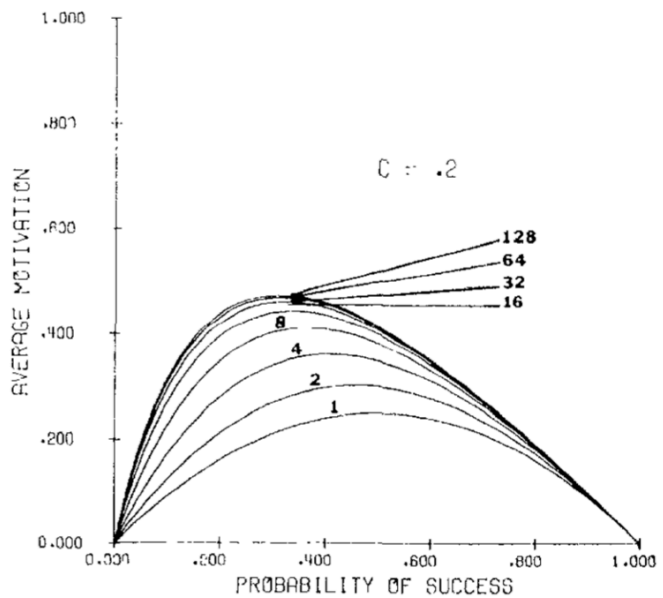
Effort increases over trials, but depends upon loss parameter



If at first you don't succeed, try try again

The effect of multiple trials and psychological carryover. Right panel shows some trial to trial loss.





Atkinson and Locke reconsidered

1. Most Locke tasks were multiple trial studies.
2. Single trial studies, effort should be curvilinear with difficulty
3. Multiple trial studies, effort should be increasing function of difficulty up to high level of difficulty

Atkinson, Locke, and folk wisdom

1. If is is worth doing, it is worth doing well: Achievement motivation
2. If at first you don't succeed, try, try again: Carryover
3. When the going gets tough, the tough get going
4. More carryover on hard tasks
5. Wise men do not beat their heads against brick walls
6. Reality testing of goal setting

Dynamics of Action: Approach Atkinson & Birch (1970)

1. Action Tendencies as latent needs
2. Instigating forces – situational stimulation and individual sensitivities
3. Consummatory forces – need satisfaction
4. Change in action tendencies = f(instigating forces - consummatory forces)
5. Action Tendencies increase as a function of instigating forces, decrease as a function of action.
   - dT = F (if not ongoing)
   - dT = F - cT (if ongoing)
   - Stable state occurs when $dT = 0 <=> T = F/c$
6. Actions with greatest action tendency will occur

Avoidance and inhibitory motivation: Negaction

1. Negaction tendencies inhibit behavior
2. Inhibitory forces increase negaction
3. Resistance forces decrease negaction
4. $dN = I - rN <=> N- > I/r$ at limit

Inhibition and resultant action tendencies

1. Resultant action tendency = T -N
2. Resultant action tendency will grow if not ongoing
3. Example of bottled up action tendencies
4. A classroom with an authoritarian teacher
   - Strong inhibitory forces lower Tr but not T
   - Release of inhibition releases "bottled up action tendency?

Personality as rates of change in states

1. What is stable is how rapidly one changes
2. Sociability as rate of becoming sociable
3. Anxiety as rate of change of becoming anxious
4. Intelligence as rate of change in problem space
5. Need achievement as rate of growth in approach motivation when faced with achievement goals

Personality as rates of change

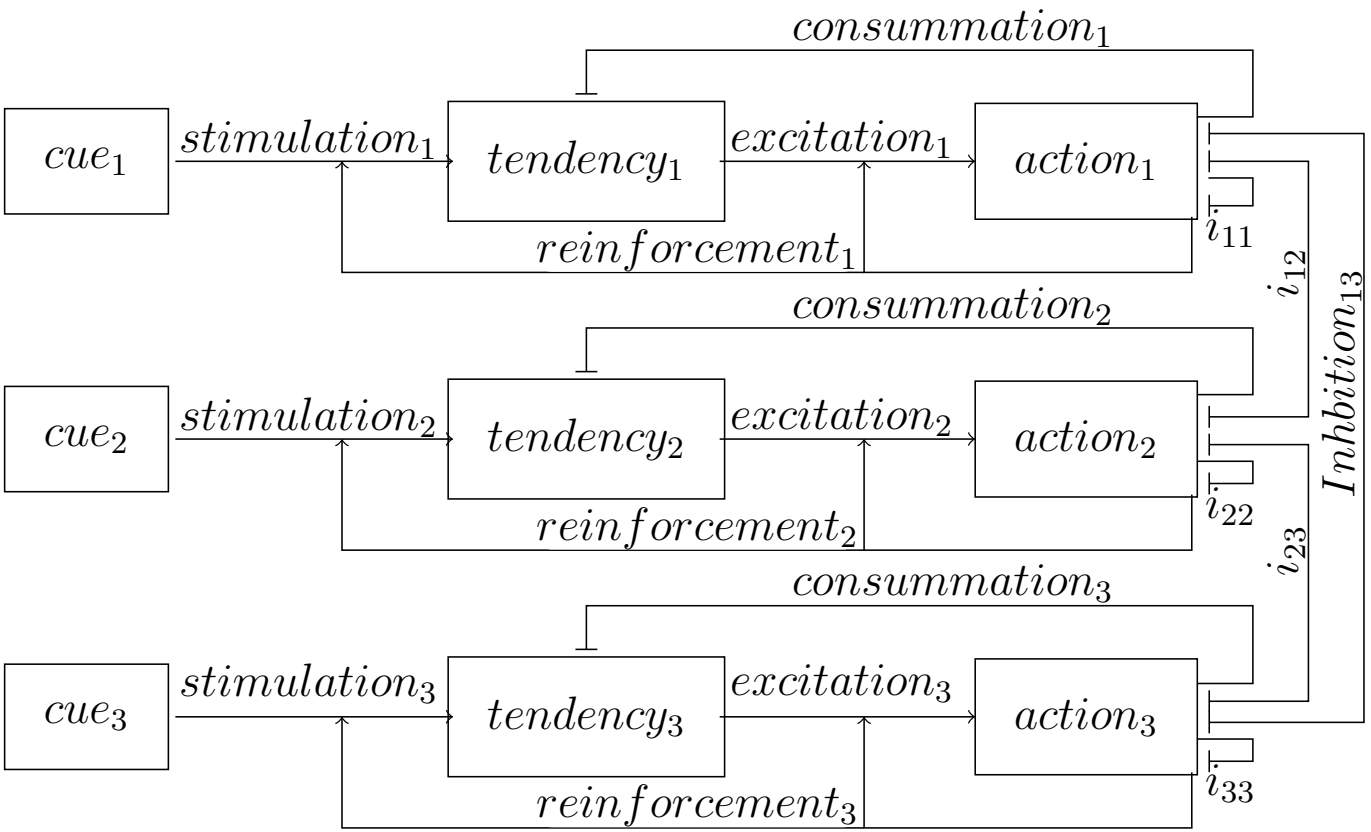
1. Growth rates, decay rates, inhibitory strengths
2. Growth of tendency when stimulated
3. dTa = personality x situation
4. Decay of Ta when ongoing
5. Adaptation rate?
6. Strength of inhibitory processes

Cues-Tendencies-Action model

1. Basically a reparameterization of the DOA
2. Somewhat easier to understand
3. Easy to simulate in software (the `cta` function in *psych*)
4. Three levels of dynamic analysis Revelle & Condon (2015)
5. See Formal models

The CTA model

$$dt = Sc - Ca \qquad dA = Et - Ia$$



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