Level of Aspiration and the concept of goal¹

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RESUMEN

Las primeras investigaciones sistemáticas sobre conducta dirigida a metas se realizaron entre 1930 y 1940, adoptándose por lo general la frase "nivel de aspiración" para referirse a las metas de un individuo cuando realiza una actividad específica. Se desarrolló un procedimiento experimental para investigar el nivel de aspiración, donde los sujetos eran expuestos repetidas veces a una tarea simple y se les pedía que dijeran que tan bién esperaban salir en ensayos sucesivos.

El punto central en las investigaciones sobre nivel de aspiración consiste en suponer que las afirmaciones que hacen los individuos en la situación experimental representan sus metas.

El análisis de los usos diferentes que se dan al concepto de meta en el lenguaje ordinario indica que: I) Lo que los individuos dicen acerca de sus metas no es una condición necesaria ni suficiente para hacer afirmaciones acerca de sus metas; y II) El identificar lo que los individuos dicen sobre sus metas con las metas mismas, elimina distinciones importantes que se hacen en el lenguaje ordinario, lo cual conduce a un número de absurdos lógicos. Se concluye que el procedimiento de nivel de aspiración puede emplearse para investigar las relaciones entre lo que los individuos hacen y lo que dicen respecto a lo que hacen, dentro de un contexto en el cuál lo que hacen puede describirse de acuerdo con algun criterio de precisión.

Palabras Clave: Nivel de aspiración, fijación de metas, concepto de meta, lenguaje ordinario, análisis conceptual.

Abstract

The first systematic investigations of goal-setting behavior were conducted between 1930 and 1940, and the term level of aspiration was generally adopted to refer to individuals' goals when engaged in a specific activity. An experimental procedure to investigate level of aspiration was developed in which subjects, repeatedly engaged in a simple task, were asked to state how well they expected or hoped to do in successive trials.

Central to investigations of level of aspiration is the assumption that the statements individuals make in the experimental situation represent their goals. An analysis of different usages of the concept of goal in ordinary language indicated that: I) what individuals say

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about their goals is neither a necessary nor sufficient condition to make statements about their goals; and II) to identify what individuals say about their goals with their goals eliminate important distinctions made in ordinary language, and lead to a number of logical absurdities. It is concluded that the level of aspiration procedure can be used to investigate the relations between what individuals do and what they say about what they do, in a context in which what they do can be described according to some criteria of goodness.

Descriptors: level of aspiration, goal-setting, concept of goal, ordinary language, conceptual analysis.

LEVEL OF ASPIRATION

People often set goals for their actions, be it to receive professional promotion, to ensure freedom and democracy in the world, to lose those extra five pounds before the party, or to be more understanding with the loved ones. Some goals can be easily achieved, others seem quite unreachable; the former are said to be realistic, the latter, unrealistic. Some individuals have their feet on the ground; other seem to live in a constant dream.

The passage above represents the general context from which the notion of goal-setting was borrowed from ordinary language into psychology. This concept has carried with it connotations of "purpose", "objective", the "thing towards which the action is directed", being thus incorporated to the general field of motivation. Together with this motivational load, it brought to psychology questions concerning the ways individuals set goals for their actions. Adjectives such as ambitious, confident, realistic, modest, reserved, diffident, in at least some of their usages, function as general descriptions of how different people set goals for themselves. Such adjectives, often conceived as psychological traits, have made the investigation of goal-setting behavior relevant to the study of personality. If the variables that affect goal-setting behavior were known, so would be some of the variables that affect ambition, confidence, realism, and the other psychological traits.

The first systematic investigation of goal-setting behavior was conducted by Hoppe (1930; cited in Frank, 1935a). The term level of aspiration, introduced by Dembo (1931; cited in Frank, 1935a), was generally adopted as a quasi-technical term to refer to individuals' goals when engaged in a specific activity. Based upon these initial experiments, an experimental procedure to investigate individuals' goals was developed, which, despite its variations, has remained sufficiently standardized to allow a general description of its common characteristics. In such experiments, subjects were repeatedly engaged in a simple task such as dart-throwing, solving arithmetic problems, card-sorting, playing quoits, or printing letters. The

time taken to complete the task, and/or the number of correct answers or points obtained, or any other quantifiable feature of performance was recorded and presented to subjects as a score after each of several trials. After some period of practice, they were then asked to state how they expected or hoped to do on the following trial. After the trial was completed, their score was presented, they were again asked to state what they expected, and another trial followed. This procedure was repeated several times. In some variations of the procedure, subjects were also asked to estimate their past performance after each trial, before their score was presented. Basically, then, three different types of information would be available for analysis: a performance score, a statement about future performance, and, sometimes, an estimate of past performance. These measures would be recorded as numbers varying on the same scale, which would allow one to describe them as increasing or decreasing across trials, and to compare them in size, viz., as larger or smaller in relation to the other two measures.

This procedure was widely adopted to investigate goal-setting behavior. Such investigations can be classified under two broad categories according to the type of variables examined. Some focused on the effects of situational variables, such as changes in performance scores, presentation of group scores, and type of instructions; other analyzed the influence of individuals' characteristics, such as academic experience, sex, personality traits, and psychiatric diagnosis (for recent reviews, see Campbell, 1982; Oliveira Castro, 1989).

The first theory proposing to account for behavior in the level-of-aspiration situations was presented by Frank (1935a; 1935b; 1938). He proposed that the relation of the statement about future performance (level of aspiration) to the level of past performance at any time depends primarily on the relative strength of the following three needs: a) the need to keep the level of aspiration as high as possible, regardless of the level of performance; b) the need to make the level of aspiration approximate the level of future performance as closely as possible; and c) the need to avoid failure, where failure is defined as a level of performance below the level of aspiration, regardless of its absolute goodness.

Explanations of response patterns observed in level-of-aspiration situations in terms of need (or desire) of success and/or fear of failure (or defense) were widely adopted (e.g., Atkinson, 1957; Bayton, 1943; Holt, 1945, 1946; Rotter, 1943; Sears, 1940) and theoretical formalizations, promptly attempted (Festinger, 1942; Lewin, Dembo, Festinger & Sears, 1944). Common to all these theoretical proposals is the assumption that the statements individuals make in the level-of-aspiration situation repre-

sent their goals. Theoretical notions such as success, failure, achievement, and ego defense relate to behavior in the level-of-aspiration situation, only if the statements individuals make in that situation are considered to be goals that they may or may not reach. Then, the first necessary step in evaluating the findings and conclusions derived from such investigations is to examine if, taking into account the various usages of the concept in ordinary language, the practice of conceiving the statements individuals make in the level-of-aspiration situation as their goals is justified.

THE CONCEPT OF GOAL

The first relevant aspect of the ordinary usage of the concept that most closely approximates its "psychological" counterpart, i.e., "the object to which effort or ambition is directed" (cf. Oxford English Dictionary, 1987), is its figurativeness. In other words, the object referred to need not be and object in the same sense that a chair is said to be an object. The object of ambition or effort may be a variety of "things" such as honor, benevolence, presidency of a country, grade on a given school exam, tickets for tonight's concert, and the like. Some goals may be said to be close-ended, such as obtaining the tickets for the concert, for there is a clear situation characterizing the achievement of the goal, while others are open-ended, such as the striving for benevolence, in which case the goal may be a characteristic of many different actions, with no clear end-state at which the goal may be said to have been achieved. What do these diverse usages of the concept have in common? Peters (1958), in his analysis of psychological theories of motivation, asserted that:

...anything is called a goal if we can see that behavior varies concomitantly with changes in the situation which we call the goal and in the conditions necessary to attain it. Our problem is to fit the particular piece of behaviour into this rather fluid means-end nexus. (p.46)

This statement stresses some basic features of the ordinary usage of goal, when the term is used as a common-sense explanation of an individual's action. Then, in this sense, the term implies a specific type of relationship between a situation and the individual's behavior, taking into account norms and conventions concerning the efficiency of different actions to the attainment of different goals.

When, for example, one asserts that "John's goal is to graduate from college before he is a 20 years old", it is implied that one knows some things about the way John studies, such as his enrolling in several classes every academic semester, including, probably, several summer courses; one

also knows that John turned down a tempting offer of spending six months travelling around the world, and that, when congress voted on the new legislation imposing a minimum age for college graduation, John followed the unraveling of events apprehensively. In addition to all this, John may have asserted many times that he intends to graduate before the age of 20. Two points deserve notice in this example. First, one would need to know the necessary conditions for college graduation, such as completing a certain number of courses, and have information concerning what other individuals usually do, such as the average time other individuals take to graduate, in order to be able to identify John's goal. In Peters'(1958) words, "...the concept of means is just as necessary to bring out what is meant by an end as the concept of end is to bring out what is meant by a means" (p.6). In identifying people's goals, one, knowing how different actions can be means to different ends in a particular society, has to decide in what type of means-end "flux" the behavior in question fits. To assert that John has a particular goal is a concise way of describing John's actions with relation to this general, intuitive knowledge concerning how other individuals have behaved or would have behaved if they were in situations similar to John's.

The second aspect of the example that deserves mention is the fact that what John says about his goals is neither a necessary nor a sufficient condition to make statements about John's goals. Of course, if what he says coincides with what he does, matters are simplified, but this does not need to be the case. And, when individuals' actions do not conform to the goals they assert they have, they actions, rather than their statements, constitute the basic upon which conclusions about their goals are reached. This practice can be illustrated by the mejority of criminal cases, in which individuals' motives are identified despite their pleas of innocence.

Reference to an individual's motive, purpose, objective, or goal, is made in at least three related but different contexts. In some cases, the identification of an individual's goal serves as a common-sense explanation for an out-of-the-ordinary action. When someone asks "why did the President go to California?", the answer "In order to campaign for one of his Senators" serves as an explanation in terms of his goal to have a Senator of his party elected. The fact that this has been a common, accepted practice of past presidents "explains" his apparently out-of-the-ordinary action by pointing out that action is not really out of the ordinary. Other individuals, in the same situation, would have done the same. This type of explanation is dispositional, in the same sense that explanations in terms of character traits are dispositional; the difference lies in their generality. While an explanation in terms of character traits "explains" an individual's action with

reference to conditional statements concerning other actions of the same individual, an explanation in terms of goals "explains" an individual's action with reference to conditional statements concerning the actions of other individuals in the same society. "Robert did not donate any money to his Church because he is avaricious" implies that his behavior can be understood in light of his actions in the past, and rules out any extraordinary circumstance that could have determined his action, such as his being bankrupt due to a serious illness in the family. By the same token, "The President's going to California in order to campaign" serves as an explanation as long as his action can be understood in light of what other presidents have done in the past, ruling out any extraordinary circumstance determining his action, such as possible enemy bombing of Washington. It is relevant to notice that in the latter case, i.e., if there is a threat of bombing, one would be likely to ask for more details about the events determining his actions, attempting to elucidate on what intelligence the decision was based and what type of bombing is expected. In the example of the individual not donating money to his Church, one is also likely to ask for more information concerning the illness in the family. Then, the explanation of an action in terms of goal seems to be accepted as a sufficient explanation only if the action conforms to the types of things other people have done or would have done. This can be further exemplified by the fact that, sometimes, the question concerning the goal of a given action is actually an attempt to elucidate the norms and conventions of the group, as when, for example, a person not familiar with the proceeding of a Catholic mass asks for the purpose of eating that "funny-looking cookie".

At other times, reference to one's goal functions as a general description of the person's actions, including the types of thing the person does and is likely to do. This is the case of the example cited above, concerning John's intention of graduating before he is 20-years-old. Here, a general description of John's behavior is being offered, not necessarily as an explanation for his actions. One could describe John as being hard-working and dedicated, and add to this description the fact that he wants to graduate at such and such age. This is a general, imprecise description of the kinds of things John does and is likely to do. It could be used as an explanation of some of John's actions if, after observing the excessive amount of time John spends at the library, i.e., an out-of-the-ordinary action, one wants to know why he does so.

The notion of goal is also used to distinguish intentional, planned actions from things people do haphazardly, unintentionally, by accident. The tennis player that wins a point by hitting the ball across the court, deep and close to the baseline, when her opponent is at the opposite side of the

court, is usually said to have done so intentionally and her play is warmly praised. In contrast, when her opponent returns the ball, with his back turned towards the court, and the ball, hitting the net twice, drops on that unreachable spot, his winning the point is said to have been due to luck, and he quickly apologizes for his shameful fortune. Although in both examples a player won a point, in the first case the point was won intentionally, with a "goal in mind", while in the second case, the point was won accidentally, the player did not mean to do what he did. In this context, the notion of having a goal is interchangeable with intending, and functions as an "adverbial" expression resembling Ryle's (1979) "adverbial verbs". To intend or to have a goal does not refer to something the tennis player is doing in addition to her hitting the ball; it is rather a descriptions of the way she hit the ball. She did it taking notice of where her opponent was, preparing her racket in a way that allowed her hitting the ball to the opposite side of the court, and her movements were smooth and decisive, showing no sign of hesitation. The other player, in contrast, could not have possibly seen where his opponent was, hit the ball awkwardly, and did not seem to know where the ball was after he turned around. An analogous distinction is in effect concerning unwanted actions in society, as it can be exemplified by the distinction made between manslaughter and murder.

To sum, the concept of goal is used in at least three different contexts in ordinary language. It can be used as a common-sense explanation for an action making reference to the intuitive knowledge concerning the actions of others in similar situations. It can be used as a general description of the types of things a particular person does and is likely to do. And it can be used as a general description of how a particular action was performed, implying that the action was planned and intentional, as opposed to accidental and haphazard.

GOAL-SETTING

Investigations of level of aspiration have been mainly concerned with the identification of the variables that influence individuals' choices of goals. Then, the type of question that has beden addressed is "Why did John choose to graduate before his is 20-years-old instead of before he is 23 years old?", or "Why do some individuals choose to strive for difficult goals while others constantly choose easy goals?". This type of question is conveyed by the concept of goal-setting behavior, and the main interest does not lie in the investigation of the goals of any particular individual or how different individuals pursue different goals, but rather in the "action"

of setting goals. It has been assumed that, in addition to attending several classes every semester, spending an enormous amount of time at the library, and telling others that he is planning to graduate before he is 20-years-old, John has also performed an action of setting this goal, before he started to do all these other things. The main focus of the level-of-aspiration research is to identify the variables that determine this type of action and how different individuals perform it.

In view of the ordinary use of the concept of goal, this assumption raises the following paradox: If an individual's goal is identified through concomitant variations of his actions with relation to changes in a situation, the goal, and the necessary conditions to attain it, how can his goal be identified before such actions occur? There seems to be two possible ways of answering this question. First, one could assert that the individual's goal is identified through the statements the individual makes. John's goal is identified at the moment he asserts, or the first time, that he plans to graduate before the age of 20. This type of answer would solve the paradox at the cost of eliminating important distinctions between true statements and false statements about goals, and would clearly make the job of prosecutors quite impossible, for they would always need a full confession of the crime in order to identify someone's motive. This proposal would also imply that Robinson Crusoe, finding himself on a deserted island, would not have any goals, for the would have no one to whom to tell them. The other problem inherent in this type of solution has to do with the question of how the individual himself knows what his goal is in order to report it to others, and this raises the second possible type of solution or the paradox.

One could assert, and indeed most psychologists have, that setting a goal is a mental act, identifiable only by the person performing it through introspection. The "act" is performed somewhere "inside" the person, hence the difficulties associated with its identification by others; the person performing the "act" is said to have privileged access to its occurrence or nonoccurrence, and to choose whether or not to report its occurrence to others. The problems associated with this general notion of privileged access of mental acts have been dealt with extensively in Ryle's (1949) analysis of the issue, and it is worth applying some of his arguments to the issue at hand. If setting a goal is an action (a mental one), it would make sense to ask what goal the individual performing the action has in mind when he sets his goal, and this would imply that the individual would have to set a goal for his setting a goal, and so on and infinitum. It thus follows that goal-directed actions could never occur, for the goal would have to be set before the action occurs and an infinite series of setting goals would have to occur before the goal is set. One could, of course, argue that setting a

goal does not belong to the category of purposeful actions, in which case it would not be considered an action at all, at least not according to any of the existing usages of the concept, and the defender of the "theory" would have to elucidate what sort of "thing" this "setting a goal" is.

The original research question justifying investigations of level of aspiration has been a misleading question. It has been assumed that setting a goal is an action and that one can investigate how different individuals do it. If the person frequently sets high, difficult goals, then the person is said to have a high level of aspiration; if the person frequently set easy goals, the person is said to have a low level of aspiration. What sorts of things a person is doing when he or she is described as setting or having set a goal? It has been shown that "setting a goal" cannot be identified with what the person says, for this would eliminate the distinction between true and false statements about goals, and would deprive Robinson Crusoe of goals. Neither can "setting a goal" be conceived as a mental action without implying the occurrence of an absurd, infinite series of preceding mental acts.

But is it not perfectly legitimate to assert that "John has decided to graduate before the age of 20" and that "Mary chose to compete in the national championship"? What are John and Mary doing when they are described as having decided or having chosen? Do the verbs "to decide" and "to choose" refer to actions in a similar sense that "setting a goal" may be said to refer to a particular action? The answer is "yes" and "no". It is "yes" because they do refer to actions as opposed to "mental acts of operations". It is "no" because they are not verbs of doing in the same sense that "to talk" and "to run" are said to be verbs of doing (Ryle, 1979). When a person is described as having decided to go to New York, for example, there is not any action in particular that can, by itself, be identified with the "deciding". "The person has decided such and such" is a concise description of several things the person may have done, such as the person has told somebody about the decision, has bought an airline ticket to New York, has cancelled his or her appointments for the following day, and has not gone to New York yet. If more than one person is involved, as in "The members of the committee have decided to raise the taxes", the same sort of description is being offered, i.e., the committee spokeswoman has announced the decision, the formal document specifying the decision is being prepared, and the taxes have not been raised yet.

In sum, to describe someone as having decided to do something is a concise way of saying that the person is at the moment doing the sorts of things one needs to do in order to do the something that has been decided, and that the person has not done the something yet. If the person has already gone to New York, or taxes have already been raised, one would say

that he or she went to New York or that the committee has raised the taxes. To state that he or she has decided to go to New York, when he or she is already in New York, makes the expression "has decided" superfluous (unless one intends to stress that the person went voluntarily and was not forced to go; this would be a different usae of the term). The point to be stressed here is that the expressions "to decide" and "to choose" are used to describe the kinds of things an individual is doing in relation to the kinds of things that people usually do before a given action is performed; these expressions do not describe any mental acts the individual is performing in addition to the things he is doing. When deciding upon whether or not to raise taxes, the members of the committee talk to each other, argue with each other, and vote on the issues, but they do not do some deciding in addition to all these things; doing all or some of these things is what is being described when they are said to be "deciding". One cannot, without absurdity, describe someone as deciding for five minutes. On the other hand, a decision can be said to be appropriate or expedient. In these cases, it is not the deciding that is appropriate or expedient, but the course of action taken when one or more alternatives were available. When the General, being informed that the enemy troops have been reinforced, has to decide whether he should attack or retreat, an expedient decision would imply that he ordered his troops to retreat promptly after he received the communication of enemy reinforcements. An appropriate decision would imply that retreating was after all the best thing to do in that situation according to what is known about military strategy. After receiving the information, the General did not perform two separate actions of deciding and giving the orders; "deciding" is used to describe the kind of relation between his being presented with the message and his giving the orders.

The same type of argument can be applied to the notion of goal setting, for to describe someone as having set a goal is equivalent to asserting that the person has decided to pursue that goal. And how do we identify someone's "having decided" to pursue a particular goal? This can be done in exactly the same way as we identify any other "deciding". To assert that John has decided to become a doctor is a concise way of saying that John is doing the kinds of things people that become doctors do and that he is not a doctor yet. He enrolled in the pre-medical program when asked to select his major area of study in college, he studies very assiduosly, always commenting on the importance of having good records if one wants to go to medical school, he is frequently talking about his physiology classes, and, when asked about is plans, he promptly answers that he is planning to become a doctor. Again, the point to keep in mind is that to say that someone is deciding about goals, or deciding about any other types of things, is

not to describe the person as doing a special type of action that would correspond to the "deciding", in addition to, for example, enrolling in the pre-medical program or talking to others about plans. Neither is it to describe something the person did before enrolling in the pre-medical program and the like. The person is said to be deciding when, after being presented with a set of alternatives, he or she has not yet done anything that indicates what course of action he or she will take. The person is said to have decided when, after being presented with a set of alternatives, he or she has done something that indicates what course of action he or she will take, although such action has not occurred yet.

An importante implication of this argument is that it would make little sense to investigate decision making or goal setting without reference to the kinds of things the person is doing. For, if "deciding" is not an action the individual does in addition to his enrolling in pre-medical school, talking about his plans, and the like, it makes little sense to attempt to investigate the "deciding" without examining the particular things the individual is doing. The attempt to investigate the "deciding" implies that the General, giving orders to his troops, is doing the same general sorts of things as John is doing, despite the fact that one is in the middle of a battle and the other is at the campus library. It is not difficult to see that the kinds of things that would influence the General's "deciding" are not the same kinds of things that would influence John's, despite psychologists' efforts to abstract abstractions.

CONCLUSION

In view of the present conceptual analysis, the practice of conceiving the statements an inidividual makes in the level-of-aspiration situation as goals is unjustified and misleading. Such practice would require a change in the ordinary usage of the concept of goal for, in ordinary language, to describe an individual as having a particular goal is a concise way of describing that his behavior varies concomitantly with changes in the situations that "lead" to the goal, such situations being identified by conventions and general knowledge; the individual's statements about his goal are neither necessary nor sufficient for the identification of the goal. This change in the usage of the concept would do away with the important distinction, found in ordinary language, between true and false stastements about goals, and would lead to a series of theoretical absurdities, such as the assumption that goal setting is a particular type of action and the conclusion that Robison Crusoe cannot be said to have any goals in life.

It is relevant to notice that most of the "quasi-theoretical" terms adopted in investigations of level of aspiration are related to the notion of goal setting. The adoption of terms such as success, failure, aspiration, achievement motivation, expectancy, and ego-involvement has been justified on the basis of their associations to the ordinary usage of the concept of goal. If one rejects the proposal that the statements an individual makes in the level-of-aspiration situation represent the individual's goals, these quasi-theoretical notions would be left unjustified, and the theories they support would lose their intuitive appeal.

What would then be the relevance of investigations using the level-ofaspiration procedure? The procedure can be used to investigate the relations between what individuals do and what they say about what they do, in a context in which what they do can be described according to some criteria of goodness. This proposal is, of course, general and vague, and notions such as performance, estimate, and statements, also have different usages in ordinary language, which may lead to conceptual difficulties. These words are, however, less "extra-episodic" (Harzem & Miles, 1978) than the expressions to aspire, to succeed, to fail, and to have a goal, for they do describe concisely what exactly the person said or did. Such a language, without extra-episodic words, should be used in the descrition of empirical results but would not offer explanations for the phenomena observed. As orderly results are obtained, theoretical concepts can be developed to explain the phenomena of interest. It is worth emphasizing that "...a language which is specific and contains no extra-episodic words should perhaps be regarded as some kind of ideal limit ..." (Harzem & Miles, 1978; p.62). Researchers should keep in mind that, despite the fact that operating rooms cannot be in practice completely free of germs, sterilization procedures have not been abandoned.

REFERENCES

Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64, 359-372.

53

- Bayton, J. A. (1943). Interrelations between levels of aspiration, performance, and estimates of past performance. *Journal of Experimental Psychology*, 33, 1-21.
- Campbell, D. J. (1982). Determinants of choice of goal difficulty level: A review of situational and personality influences. *Journal of Occupational Psychology*, 55, 79-85.
- The compact edition of the Oxford Englisch dictionary. (1987). Oxford University Press.
- Dembo, T. (1931). Der Arger Als dinamischees Problem. *Psychol. Forsch.*, 15 1-144 (cited in Frank, 1935a).
- Festinger, L. (1942). A theoretical interpretation of shifts in level of aspiration. *Psychological Review*, 49, 235-250.
- Frank, J. D. (1935a). Individual differences in certain aspect of the level of aspiration. *American Journal of Psychology*, 47, 119-128.
- Frank, J. D. (1935b). Some psychological determinants of the level of aspiration. American Journal of Psychology, 47, 285-293.
- Frank, J. D. (1938). Level of aspiration test. In H. A. Murray, *Explorations in personality* (pp. 461-471). New York: Oxford University Press.
- Harzem, P., & Miles, T. R. (1978). Conceptual issues in operant psychology. New York: John Wiley & Sons.
- Holt, R. R. (1945). Effects of ego-involvement upon levels of aspiration. *Psychiatry*, 8, 299-317.
- Holt, R. R. (1946). Level of aspiration: Ambition or defense? *Journal of Experimental Psychology*, 36, 398-416.
- Hoppe, F. (1930). Erfolg und Misserfolg. Psychol. Forsch., 14, 1-62 (cited in Frank, 1935a).
- Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. (1944). Level of aspiration. In J. McV. Hunt (Ed.), *Personality and the behavior disorders* (pp. 333-378). New York: Ronald Press.
- Oliveira Castro, J. M. (1989). Individual differences in estimates of performance: effects of changes in response-produced cues. Unpublished doctoral dissertation, Auburn University, AL..
- Peters, R. S. (1958). The concept of motivation. London: Routledge & Kegal Paul Limited.
- Rotter, J. B. (1943). Level of aspiration as a method of studying personality. III. Group validity studies. *Character and Personality*, 11, 254-274.
- Ryle, G. (1949). The concept of mind. London: Hutchinson & Company, Ltd.
- Ryle, G. (1979). On thinking. Totowa, New Jersey: Rowman & Littlefield.
- Sears, P. S. (1940). Level of aspiration in academically successful and unsuccessful children. *Journal of Abnormal and Social Psychology*, 35, 498-536.