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The Strange Case of Relative Gratification and Potential for Political Violence: The V-Curve Hypothesis*

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In the United States, in addition to an increase in the level of individual violence against persons, the 1960s also saw an increase in group actions involving coercion and violence directed implicitly or explicitly toward political ends. Scholars have sought to explain attitude toward, and participation in, political protest and civil unrest in various ways. One explanation offered by a number of prominent scholars has utilized the concept of discrepancy between a person's goals—or desired level of achievement—and his actual level of achievement: the greater the achievement discrepancy, the greater the potential for political violence. This Achievement Discrepancy (AD) hypothesis has been labeled variously, "relative deprivation," "systemic frustration," "*J*-curve," and "rising expectations" and it is with this explanation that the present paper will be concerned.

Our AD constructs will be defined and differentiated from other variants in the first section of the paper. These constructs have been built from measures of individuals' perceptions of degree of discrepancy between their own best possible achievement level and their actual achievement level with respect to various welfare values. In the second section we report tests of hypotheses about relationships between these AD constructs and potential for political violence. Here we report a finding that was unexpected (but not just specific to this sample), namely, that potential for political violence does not vary monotonically with direction and rate of change in discrepancy between achievement optimum and achievement; rather, the greatest potential for political violence is manifested both by individuals who perceive negative change (increasing discrepancy) *and by individuals who perceive positive change* (decreasing discrepancy), while those who perceive no change manifest the least potential for political violence. In attempting to explicate this finding through the introduction of various control variables, we find that a nonmonotonic "*V*" relationship is remarkably persistent. Finally, we show that the *absolute magnitude* of change in perceived discrepancy over time is a variable that warrants inclusion in a linear additive model of potential for political violence.[1]

Our data come from a survey of the residents of Waterloo, Iowa, a city with a population of approximately 78,000, located some 200 miles west of Chicago. Waterloo is like many other urban communities in the United States. It developed as a manufacturing center linked to Chicago by the Illinois Central Railroad. Now, although the two major manufacturing plants are still in operation, the inner city includes decaying commercial structures and a black ghetto, while the lily-white residential areas that surround the inner city are serviced by large shopping centers in the standard "airport-modern" architectural style. The Report of the National Advisory Commission on Civil Disorders classified Waterloo as having experienced "serious" disorders in 1967 and on Jules Wanderer's Guttman scale of riot severity[2] Waterloo ranked at the second highest level. Thus, Waterloo was considered an appropriate research site for the testing of explanations of allegiance and opposition to the political regime.

The sample we shall analyze here is a disproportionately stratified (by race) cluster sample of Waterloo residents 18 years of age and older.[3] It consists of 503 respondents to an in-

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[1] See Edward N. Muller, "A Test of a Partial Theory of Potential for Political Violence," *American Political Science Review,* 66 (September, 1972), 928–959.

[2] See Table 2 at page 504 of Jules J. Wanderer, "An Index of Riot Severity and Some Correlates," *American Journal of Sociology,* 74 (March, 1969), 500–505.

[3] The Survey Division of the Statistical Laboratory at Iowa State University drew the sample and conducted the interviewing between March and May 1970. It is a disproportionately stratified, multistage, random probability sample. On the basis of an update to the 1960 Census conducted by the Waterloo

terview schedule of approximately 80 minutes duration, administered during the spring of 1970 by the Survey Division of the Statistical Laboratory at Iowa State University.

The Achievement Discrepancy Explanation

Proponents of the AD explanation of potential for political violence have been careless on two counts. First, in the AD formulation the achieved state represents an individual's present (or anticipated) actual level of attainment with respect to magnitudes of a desired value; but the optimum state has no unitary meaning. Achievement optima, or goal-levels, have been defined in various ways—e.g., "just deserts," "aspirations," "social expectations," "expected need satisfaction"—which give rise to a series of not necessarily congruent hypotheses; yet scholars commonly have failed to differentiate clearly between the different AD terms in these hypotheses. Second, and perhaps of greater consequence for the present status of the AD explanation, tests of AD hypotheses often have entailed a disparity between verbal and operational definitions of AD terms. Regardless of the particular achievement optimum used in the definition of discrepancy, the key point to be grasped is that the discrepancy is between *perceived* achievement optima and achievement, a discrepancy which in no way necessarily coincides with a person's objective sociological circumstances. Unfortunately, lacking appropriate data, many scholars have proceeded from a verbal definition in terms of perceived discrepancy between some achievement optimum and achievement to an operational definition in terms of objective social, economic, and political conditions; thus, objective sociological circumstances are let in by the back door, resulting in measurement of something other than the AD concept as verbally defined and a test of something other than an AD hypothesis.

It is important, then, that tests of AD hypotheses clearly specify which variant of the AD concept is under investigation. And from the standpoint of building empirically verified theory it is particularly important that such tests include measures of perceived discrepancy at the level of individual behavior; for a claim to have confirmed or disconfirmed an AD hypothesis is hardly warranted if the purported measure of the AD concept actually refers to objective sociological circumstances.

Also, it is important to distinguish between static and dynamic versions of the AD concept. Static versions refer to perception of discrepancy between achievement optima and achievement at a single point in time; dynamic versions refer to change over time in perception of discrepancy. Previously, one of us has built measures of the AD concept that are explicitly differentiated by this distinction.[4] As we shall show in this paper, the form of the relationship between potential for political violence and AD constructs may differ substantially, depending upon whether the AD construct is static or dynamic.

Achievement Discrepancy Hypotheses. Ted Gurr has labeled his version of the AD concept Relative Deprivation, "defined as actors' perception of discrepancy between their value expectations and their value capabilities. Value expectations are the goods and conditions of life to which people believe they are rightfully entitled. Value capabilities are the goods and conditions they think they are capable of getting and keeping."[5] Gurr equates value expectations with individuals' conceptions of their *just deserts:* "value expectations are defined with reference to *justifiable* value positions, meaning what men believe they are entitled to get or maintain, not merely what they faintly hope to attain."[6] Gurr distinguishes between present and future perception of discrepancy between just deserts and capability, and argues that anticipated discrepancy in the future may be a more important source of discontent than perception of present discrepancy.[7] We may derive three Just Deserts hypotheses from the work of Gurr:[8]

> JD_1: Potential for political violence will vary strongly and directly with degree of discrepancy between an individual's estimate of his present achievement level and the level of achievement which he thinks he justifiably deserves.

City Planning Commission in 1967, the area of the city containing most black residents was sampled at a higher rate than the area containing most white residents. Thus, while blacks make up only 8 per cent of the Waterloo population, they constitute 38 per cent of this sample. Within each stratum a response rate of 80 per cent completions was obtained.

[4] These are Short-Term Welfare Gratification and Long-Term Welfare Gratification. See the appendix in Muller, "A Test of a Partial Theory of Potential for Political Violence," pp. 955–959.

[5] Ted Robert Gurr, *Why Men Rebel* (Princeton: Princeton University Press, 1970), p. 24.

[6] Gurr, *Why Men Rebel,* p. 27.

[7] See the discussion at pages 27 and 28 of Gurr, *Why Men Rebel.*

[8] See pages 24 to 28 of Gurr, *Why Men Rebel.* Here Gurr hypothesizes about relationships between relative deprivation and potential for collective violence. Potential for political violence is a subset of potential for collective violence (see page 158).

JD_2: Potential for political violence will vary strongly and directly with degree of discrepancy between the level of achievement which an individual expects to maintain in the future and the level of achievement which he thinks he will justifiably deserve.

JD_3: Potential for political violence will vary more strongly and directly with perception of future Just Deserts discrepancy than with perception of present Just Deserts discrepancy. (Where future and present Just Deserts discrepancy are as defined in JD_2 and JD_1 above.)

The AD concept proposed by Ivo K. Feierabend, Rosalind L. Feierabend, and Betty A. Nesvold is labeled Systemic Frustration. Systemic Frustration differs from Relative Deprivation in that the achievement optimum of the former is conceived as individuals' *aspirations* rather than individuals' perceptions of just deserts. Feierabend et al. state that by aspirations they mean "the goals that people wish to attain."[9] We may derive the following two static Aspiration Level hypotheses from the work of Feierabend, Feierabend, and Nesvold:[10]

AL_1: Potential for political violence will vary strongly and directly with degree of discrepancy between an individual's estimate of his present achievement level and the level of achievement to which he aspires.

AL_2: Potential for political violence will vary strongly and directly with degree of discrepancy between the level of achievement which an individual expects to maintain in the future and the level of achievement to which he aspires in the future.

Still another version of the AD concept is couched neither in terms of aspiration level nor of just deserts, but in terms of reference group theory. Here an individual's achievement optimum is the level of achievement which he believes has been attained by other individuals with whom he identifies. From the generalized formulation given by Anthony M. Orum and Amy Orum, we may derive the following hypotheses:[11]

RG_1: Potential for political violence will vary strongly and directly with degree of discrepancy between an individual's estimate of his present achievement level and the level of achievement which he ascribes to individuals with whom he identifies.

RG_2: Potential for political violence will vary strongly and directly with degree of discrepancy between the level of achievement which an individual expects to maintain in the future and the level of achievement which he expects individuals with whom he identifies to maintain in the future.

We believe that these three sets of propositions ought to be regarded as separate theories. Any or all of the following might be hypothesized: (1) an individual's aspiration is determined by his perception of the achievement of individuals with whom he identifies; (2) an individual's aspiration is for that level of achievement which he thinks he deserves; (3) an individuals' perception of his just deserts is determined by his perception of the achievement of individuals with whom he identifies. But, all such hypotheses are empirical and not tautological.[12] Moreover, we should note that all three sets of propositions are couched in terms of *individual perceptions,* and we must be careful not to take for granted that these perceptions correspond with the scholar's own notion of "objective" reality or "objective" deprivation.[13]

A number of ambiguities and difficulties in

[9] Ivo K. Feierabend, Rosalind L. Feierabend, and Betty A. Nesvold. "Social Change and Political Violence: Cross-National Patterns," in *Violence in America: Historical and Comparative Perspectives,* ed. Hugh Davis Graham and Ted Robert Gurr (New York: Signet Books, 1969), p. 609.

[10] See hypotheses (1) and (2) at page 609 of "Social Change and Political Violence: Cross-National Patterns."

[11] See the discussion and literature cited therein at pages 522 and 523 of Anthony M. Orum and Amy Orum, "The Class and Status Bases of Negro Student Protest," *Social Science Quarterly,* 49 (December, 1968), 521–533. What we call the "reference group" version of the AD concept Orum and Orum label the "relative deprivation" perspective. Since the reference group hypothesis formulated by the Orums is devoid of explicit tense references, we have reformulated it in two parts.

[12] For example, we cannot just take it for granted that because an individual's aspirations are not met he is not achieving what he perceives as his just deserts. Cf. Gurr's statement that "people become most intensely discontented when they cannot get what they think they deserve, not just what they want in an ideal sense . . ." ("A Comparative Study of Civil Strife," in *Violence in America,* ed. Graham and Gurr p. 568).

[13] This particular warning has been made by most proponents of the achievement discrepancy hypothesis. Compare the statement by Gurr at page 568 of "A Comparative Study of Civil Strife": "Relative deprivation is not whatever the outside observer thinks people ought to be dissatisfied with. It is a state of mind. . . ." See also the statement by Feierabend et al. at page 609 of "Social Change and Political Violence: Cross-National Patterns," "It should also be pointed out that it is perceived rather than actual social attainment that is important." Finally compare the statement by James C. Davies at page 6 of "Toward a Theory of Revolution," *American Sociological Review,* 27 (February, 1962), 5–19: "It is the dissatisfied state of mind rather than the tangible provision of 'adequate' or 'inadequate' supplies of food, equality, or liberty which produces the revolution."

operationalizing variables arise when we seek to test *any* of these propositions. Gurr's own major tests of his hypotheses, as he is clearly aware, are extremely indirect and involve aggregate data at a national level. For example, Gurr assumed that "any short-term decline in economic conditions and any governmental policies that restricted political activities or reduced people's socioeconomic status increased deprivation"[14] and he then related Short-term Deprivation (so defined) to levels of civil strife. But, as we can see, it is far from obvious whether what was measured was deprivation vis-à-vis perceived just deserts (as Gurr himself seems to think) or deprivation vis-à-vis aspirations, or deprivation vis-à-vis the perceived status of appropriate reference groups, or, for that matter, none of these. The latter possibility is by far the likeliest, since the measures used by Gurr reflect "objective" circumstances rather than the perceptions of discrepancy between achievement optimum and achievement with which all three of the above versions of deprivation are, in fact, concerned.

The Just Deserts version of the AD concept lacks clear-cut operational meaning for "just deserts" at the micro level. Gurr himself has suggested that the top of a Cantril Self-Anchoring scale represents an individual's perception of his just deserts, and Gurr uses data derived from Self-Anchoring scale responses to test his relative deprivation hypothesis.[15] But the top of a Cantril scale, defined by an individual's perception of his *best possible* achievement level, is not *identical* with a "just deserts" position. While an individual's perception of discrepancy between his best possible achievement level and his actual achievement may show a strong empirical correlation with his perception of discrepancy between that achievement level to which he believes he is justifiably entitled, they are, nevertheless, analytically distinct achievement optima, and there is no a priori reason to assume that they would yield discrepancy estimates with a correlation near unity.

The work done by Feierabend et al. also draws on aggregate data and again uses very indirect measures of their Aspiration Level version of the AD concept, by inferring deprivation vis-à-vis aspiration level from a measure of national modernity which "combines GNP per capita, caloric intake, telephones, physicians, newspapers, radios, literacy, and urbanization."[16] Clearly, it is rather far-fetched to postulate that these standard indices of socioeconomic development are *measures* of perceived discrepancy between aspiration level and achievement. As with Gurr, the data on which the Feierabend et al. hypotheses are tested involve indices of objective conditions, such as social and economic development, which need not correspond at all with subjectively perceived deprivation.

An additional ambiguity in the Aspiration Level version of the AD concept is the lack of precision in the definition of an individual's aspiration level. Feierabend et al., as we previously noted, define an individual's aspiration level as the goals that he wishes to attain. But, since the term "goal" is left undefined, it is difficult to know what meaning to assign to aspiration level, for the term "aspiration level," as it is used in the psychological literature, has a plethora of meanings, *each of which can be used to formulate a quite different "aspiration" version of the Gap concept.*[17]

Definition 1: An individual's aspiration level is the utility of that achievement (among those which he can imagine himself attaining) with the highest expected utility.[18]

Definition 2: An individual's aspiration level is the utility of that achievement (among those which he can imagine himself attaining) which separates satisfactory from unsatisfactory outcomes, i.e., that achievement whose attainment leaves the individual neither satisfied nor dissatisfied.[19]

Definition 3: An individual's aspiration level is the utility of that achievement (among those which he can imagine himself attaining) which is the higher in utility of the two utility-wise adjacent achievements between which the rate of change of utility is maximum.[20]

Definition 4: An individual's aspiration level is the utility of that achievement (among those

[14] Gurr, "A Comparative Study of Civil Strife," p. 572.

[15] See Gurr, *Why Men Rebel,* pp. 63–66.

[16] Feierabend et al., "Social Change and Political Violence: Cross-National Patterns," p. 627.

[17] The definitions below are adapted from Bernard Grofman, "Utility and Aspiration," Department of Political Science, State University of New York at Stony Brook, ditto, 1971. For a general introduction to the literature on aspiration theory see W. H. McWhinney, "Aspiration Levels and Utility Theory," *General Systems Yearbook,* 10 (1965), 131–143.

[18] See K. Lewin, T. Dembo, L. Festinger, and P. Sears, "Level of Aspiration," in *Personality and the Behavioral Disorders,* ed. J. McV. Hunt (New York: Ronald Press, 1944), pp. 333–378. By expected utility is meant the subjective probability of an event's occurrence times its utility, where utility is assumed to be expressed on an interval scale which satisfies the Von Neumann-Morgenstern axioms. (See any introductory text on decision theory.)

[19] See Herbert Simon, "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics,* 69 (February, 1955), 99–118.

[20] See Sidney Siegel, "Level of Aspiration and Decision-Making," *Psychological Review,* 64 (1957), 253–261.

which he can imagine himself attaining) which is the higher in utility of the two expected utility-wise adjacent achievements between which the rate of change of *expected* utility is maximum.[21]

Definition 5: An individual's aspiration level is the utility of that achievement (among those which he can imagine himself attaining) which is the higher in utility of the two expected utility-wise adjacent achievements between which the rate of change of expected utility is maximum *and* which lie in the neighborhood of the individual's present level of achievement.[22]

We introduce these definitions simply to exhibit the diverse range of distinct definitions on which one might base an Aspiration Level version of the AD concept.

Also, much of the work done to "test" the reference group version of the AD concept has employed measures of objective deprivation (e.g., nonwhite median family income divided by white family income) rather than subjective perceptions of achievement discrepancy.[23] Moreover, the reference group selected for comparison has been that which the scholar feels to be appropriate, rather than one whose appropriateness as a basis for comparison has been established by research at the micro level.

Attempts to test the AD explanation in any of its many guises with direct evidence from individual behavior have been few, although we regard micro level tests as crucial—given the form in which AD hypotheses have been couched. Most tests of AD hypotheses at the micro level have used Hadley Cantril's Self-Anchoring scale, a device which measures degree of perceived discrepancy between an individual's best possible level of achievement and his actual level of achievement.

The Self-Anchoring scale is a ladder of eleven rungs, numbered from zero to ten. Respondents are shown a picture of the ladder. In the Cantril version, the top rung of the ladder is defined as the respondent's best possible life, the bottom rung as his worst possible life.[24] Respondents are asked to place themselves on the ladder with respect to the present, five years in the past, and five years in the future.

According to Cantril's twelve-nation study, welfare values, or conditions of life that facilitate physical well-being and self-realization, were by far the most salient personal concerns.[25] A variant of the Cantril Self-Anchoring scale, used by Muller, replaces life situation in general as the achievement referent with four categories of welfare values: career satisfaction, economic well-being, satisfactory living conditions, and children's welfare.[26] In the Welfare-Value version, respondents are asked to imagine that the top and bottom rungs of the ladder are best and worst possible levels of "work situation," "total family income," "housing accommodations," and "chances of being able to get your children a good education." Present, past, and future estimates of discrepancy between best possible and actual level of achievement are then obtained for each welfare value.

Position on the Self-Anchoring scale gives, we believe, an operationally unambiguous measure of at least one form of achievement discrepancy—discrepancy defined as the difference between an individual's subjective estimate of his level of achievement vis-à-vis some value(s) and his perception of his best possible level of achievement. The high end of the scale, position "10," indicates complete congruence between achievement optimum and achievement, or a state of perfect relative gratification; the low end of the scale, position "0," indicates complete incongruence between achievement optimum and achievement, or a state of perfect relative deprivation. For the Best Possible version of the AD concept, we may formulate the following hypotheses:

BP_1: Potential for political violence will vary strongly and directly with degree of discrepancy between an individual's estimate of his present achievement level and his perception of his best possible achievement level.

BP_2: Potential for political violence will vary strongly and directly with degree of discrepancy between the level of achievement which an individual expects to maintain in the future and his perception of his best possible achievement level.

The relationship between the above propositions and the other three versions of the AD

[21] Suggested by McWhinney, "Aspiration Levels and Utility Theory."

[22] Proposed by Grofman, "Utility and Aspiration."

[23] See pages 640 to 645 of Seymour Spilerman, "The Causes of Racial Disturbances: A Comparison of Alternative Explanations," *American Sociological Review*, 35 (August, 1970), 627–649.

[24] See Hadley Cantril, *The Pattern of Human Concerns* (New Brunswick: Rutgers University Press, 1965), pp. 22–26.

[25] By Gurr's classification, 62 per cent of all personal concerns had to do with welfare values; if we include the approximately 16 per cent of interpersonal values which relate to the family as part of the welfare value category, then 78 per cent of all personal concerns referred to welfare values. See Gurr, *Why Men Rebel*, p. 70.

[26] See the appendix in Muller, "A Test of a Partial Theory of Potential for Political Violence," pp. 955–959.

concept is far from clear. There is no good reason to believe—much less is it tautologously true—that the top of a Self-Anchoring scale represents the level of achievement which an individual would regard as his just deserts (at least in the ordinary language sense of that term); nor need it represent the achievement to which he aspires, where aspiration level is defined as in Definitions 1–5; nor need it represent the achievement which he believes has been attained by members of a relevant reference group. Since our measures of achievement discrepancy in this paper are based on the Self-Anchoring scale, the reader must be cautious in inferring conclusions about variants of the AD concept other than the Best Possible version.

The empirical linkages among the various forms of achievement discrepancy, and the relative efficacy of each form as a predictor of key variables such as potential for political violence, cry out for an investigation which our data do not allow us to provide. Nonetheless, we do conjecture that any of the particular results we find for the Best Possible definition of the AD concept also will hold true for other micro-level achievement discrepancy measures that might be constructed.

Regardless of how achievement optimum is defined, we shall distinguish between two forms of shift in perceived discrepancy. The most straightforward is one we might label the Rate-of-Change (RC) pattern. RC discrepancy shift ranges from positive change, where discrepancy is perceived to decrease over time, through no change, where discrepancy is perceived to increase over time. The particular dynamics which give rise to a shift in perceived discrepancy over time may vary. Discrepancy shift may result from a change in achievement optimum over time relative to a lesser change in, or a constant, actual achievement. An increase in achievement optimum relative to actual achievement would produce the kind of increase in discrepancy that has been labeled "aspirational deprivation" by Gurr and, as a cause of potential for political violence, is often called the "rising expectations" hypothesis.[27] Alternatively, discrepancy shift may result from a change in actual achievement relative to a lesser change in, or a constant, achievement optimum. A decrease in actual achievement relative to achievement optimum would produce the kind of increase in discrepancy that has been labeled "decremental deprivation" by Gurr.[28] The basic hypothesis relating RC discrepancy to potential for political violence can be expressed as:

> *RC:* Potential for political violence will vary strongly and directly with degree to which perceived rate of change in discrepancy between achievement optimum and achievement is negative.

To our knowledge, the RC hypothesis has been tested only once at the micro-level.[29] The various macro-level "tests"[30] have all used objective measures of achievement; but the connection between changes in objective social, political, and economic conditions and individual perceptions of discrepancy shift, as we have suggested before, is not at all clear.

The other major pattern of discrepancy shift which scholars have proposed as a cause of potential for political violence has been labeled "progressive deprivation" by Gurr and is often called the "*J*-curve" or "rise and drop" hypothesis.[31]

> The *J*-Curve is this: revolution is most likely to take place when a prolonged period of rising expectations and rising gratifications is followed by a short period of sharp reversal during which the gap between expectations and gratification quickly widens and becomes intolerable. The frustration that develops, when it is intense and widespread in the society, seeks outlets in violent action.[32]

The *J*-Curve pattern is one in which positive discrepancy shift (discrepancy is perceived to decrease over time) is followed by negative discrepancy shift (discrepancy is perceived to increase over time). "Tests" of the *JC* hypothesis have been conducted at the macro-level, and have been extremely inferential, since the objective measures of achievement employed have

[27] See: Gurr, *Why Men Rebel,* pp. 50–52; James A. Geschwender, "Social Structure and the Negro Revolt: An Examination of Some Hypotheses," *Social Forces,* 43 (December, 1964), 248–256, especially p. 249.

[28] *Why Men Rebel,* pp. 46–50.

[29] Don R. Bowen, Elinor Bowen, Sheldon Gawiser, and Louis H. Masotti, "Deprivation, Mobility, and Orientation Toward Protest of the Urban Poor," in *Riots and Rebellion,* ed. Louis H. Masotii and Don R. Bowen (Beverly Hills: Sage, 1968) p. 187–200. These authors investigated a form of the RC hypothesis in which the measure of perceived change in discrepancy was dichotomized in various ways.

[30] See: Feierabend et al., "Social Change and Political Violence: Cross-National Patterns," pp. 638–643; Gurr, "A Comparative Study of Civil Strife," pp. 572–576.

[31] See: *Why Men Rebel,* pp. 52–56; James C. Davies, "The J-Curve of Rising and Declining Satisfactions as a Cause of Some Great Revolutions and a Contained Rebellion," in Graham and Gurr *Violence in America;* Davies, "Toward a Theory of Revolution"; Geschwender, "Social Structure and the Negro Revolt: An Examination of Some Hypotheses."

[32] Davies, "The J-Curve," p. 671.

not even been related directly to aggregate measures of political violence.[33]

The *J*-Curve hypothesis is not free from ambiguity when we seek to operationalize it in micro terms, but it clearly seems to require at minimum that:

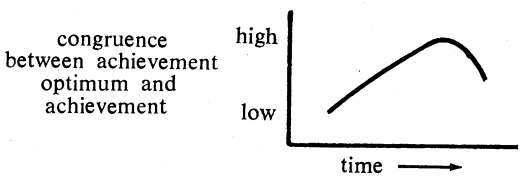
> JC_1: Mean potential for political violence will be greatest for those individuals who have experienced a perceived decrease in discrepancy between optimum achievement and actual achievement followed by a perceived increase in discrepancy between optimum achievement and actual achievement.

A more stringent version of the *JC* hypothesis incorporates the assumption that, just as the *J*-Curve produces a high degree of dissatisfaction, so will a *reverse J*-Curve produce a high degree of satisfaction.[34] This more stringent—and more complete—*JC* hypothesis requires that:

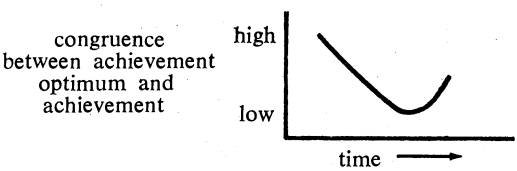
> JC_2: If individuals are classified according to whether they have experienced a perceived Rise and Drop (*J*-Curve) discrepancy shift, a No-Change discrepancy shift, or a Drop and Rise (Reverse *J*-Curve) discrepancy shift, then mean potential for political violence will be highest for those individuals in the Rise and Drop category and lowest for those individuals in the Drop and Rise category.

[33] See Davies, "The J-Curve," pp. 698–705.

[34] Actually the *J*-Curve label is somewhat confusing, since the pattern of change which Davies has in mind is really an upside down J, reversed and tilted to the right, as follows:



Thus, what we call a reverse *J*-Curve is really a rightside up J, reversed and tilted to the left, as follows:



In these figures we have adapted the ordinate to our achievement discrepancy concept; in Davies' formulation the ordinate refers to "needs" and the *J*-Curve describes a situation in which expected need satisfaction and actual need satisfaction have been increasing over time, followed by continued increase in expected need satisfaction but decrease in actual need satisfaction.

Now, just as we pointed out that the Self-Anchoring scale is only one among a number of definitions of achievement discrepancy, we must be careful to emphasize that when we come to test either the RC or the *JC* hypothesis with the Self-Anchoring scale, our observations are only of experienced and anticipated shift over time in *actual achievement level* relative to optimum achievement level. When we observe a pattern of, say, decreasing discrepancy between achievement optimum and actual achievement from past to present, followed by anticipated increase in discrepancy from present to future, this could reflect either one of the following: (1) a pattern of rising experienced achievement and then falling anticipated achievement relative to an approximately constant achievement optimum; (2) a pattern of approximately constant experienced and anticipated achievement, and falling then rising achievement optimum. Unfortunately, as far as we know, there have been no investigations of whether the optimum level of achievement as defined by a Self-Anchoring scale is treated by individuals as a constant, or whether the past, present, and future comparisons are based on different optimum achievement levels.

Despite these difficulties, we believe that the tests we perform based on the Self-Anchoring scale measure of achievement discrepancy afford as good a test of the RC and *JC* hypotheses as any to which these hypotheses have been subjected. Observation of shift in Self-Anchoring scale scores over time does provide an unambiguous measure of direction and amount of perceived discrepancy shift, even though the actual dynamics responsible for this shift—change in actual achievement relative to achievement optimum or change in achievement optimum relative to actual achievement or both—are indeterminate. And both the RC and *JC* hypotheses share the common prediction that direction and amount (or at least direction) of discrepancy shift will be related to potential for political violence.

Tests of Relative Gratification Hypotheses

Since the top of a Self-Anchoring scale is a condition of complete congruence between achievement optimum and achievement, we shall call our Self-Anchoring scale variables measures of *relative gratification*. In this section we shall test hypotheses about relationships between potential for political violence and static and dynamic relative gratification constructs.

Our dependent variable is the Potential for Political Violence (PPV) scale developed by

Muller.[35] This scale ranges from a low score of zero to a high score of ten. It is a summation of scores on an Approval of Political Violence (APV) scale and an Intention to Engage in Political Violence (IEPV) scale. These scales were built from responses to a series of items referencing dissent behaviors which constitute progressively greater degrees of challenge to the customary and legal norms of a political regime.[36] Respondents were asked to report whether they approved or disapproved of each dissent behavior, and whether or not, under present circumstances, they would engage in each behavior. The APV and IEPV variables are Guttman scales which show Reproducibility of .91 and .93, respectively, for this sample, and Reproducibility of .94 and .95, respectively, for a community leaders sample.[37] APV and IEPV range from zero to five. Level "0" involves avoidance of any deviation from customary and legal regime norms; level "1," conformity with legal regime norms and nonviolent deviance from customary regime norms; level "2," nonviolent and generally nondisrptive deviance from legal regime norms; level "3," nonviolent but disruptive deviance from legal regime norms; level "4," relatively unplanned and sporadic violence to attack the regime; level "5," the planned use of violence to overthrow the regime. APV and IEPV are strongly correlated both in this sample and in the Community Leaders sample; both variables also correlate at greater than .90 with the composite PPV scale. Furthermore, APV and IEPV correlate strongly with allegiance to groups known to advocate anti-regime dissent behavior, both for this sample and for the Community Leaders sample.

[35] See the appendix in Muller, "A Test of a Partial Theory of Potential for Political Violence," p. 955–959.

[36] The behaviors were: (1) taking part in protest meetings or marches that are permitted by the local authorities; (2) refusing to obey a law which one thinks is unjust, if the person feels so strongly about it that he is willing to go to jail rather than obey the law; (3) trying to stop the government from functioning by engaging in sit-ins, mass demonstrations, take-overs of buildings, and things like that; (4) trying to stop the government from functioning by engaging in violent protest demonstrations, including actions such as fighting with the police and destroying public and private property; (5) trying to challenge the power of the government by arming oneself in preparation for battles with government authorities such as the police and the National Guard.

[37] See Edward N. Muller, "Measurement of Readiness for Unconventional Political Participation," Department of Political Science, State University of New York at Stony Brook, mimeo 1972.

Static Relative Gratification. The static relative gratification variables (range: 0–10) which we shall use to test BP_1 and BP_2 are:

Achieved Relative Gratification—Degree of consequence between

W_p: best possible work situation and work situation in the present.

I_p: best possible total family income and total family income in the present.

H_p: best possible housing accommodations and housing accommodations in the present.

C_p: best possible chances of getting children a good education and chances of getting children a good education in the present.

Expected Relative Gratification—Degree of consequence between

W_{p+5}: best possible work situation and work situation five years in the future.

I_{p+5}: best possible total family income and total family income five years in the future.

H_{p+5}: best possible housing accommodations and housing accommodations five years in the future.

C_{p+5}: best possible chance of getting children a good education and chances of getting children a good education five years in the future.

Assuming PPV and our Achieved Relative Gratification and Expected Relative Gratification variables to be interval scales, we may readily taste the hypotheses:

BP_1': The relationship between PPV and $W_p, \ldots C_p$ will show a relatively close fit to an inverse linear function.

BP_2': The relationship between PPV and $W_{p+5}, \ldots C_{p+5}$ will show a relatively close fit to an inverse linear function.

We shall define "relatively close fit" as an r^2 equal to or greater than .20—i.e., at least 20% of the variance in the dependent variable must be accounted for by the variance in the independent variable according to the function rule.

Table 1 reports the evidence. Both BP_1' and BP_2' are disconfirmed in every instance. For PPV regressed against the Achieved Relative Gratification variables, r^2 ranges from .02 to .05, considerably less than our .20 criterion; for PPV regressed against the Expected Relative Gratification variables, r^2 is zero in every case.

The analysis of variance results presented on the right-hand side of Table 1 do show that there are statistically significant linear relationships between PPV and the Achieved Relative Gratification variables. PPV, however, is only weakly correlated with the Achieved Relative Gratification variables, and PPV scores are considerably underestimated given low scores on these variables.[38]

[38] Since both PPV and the Achieved Relative Gratification variables have the same range, if PPV were a perfect inverse linear function of Achieved Rela-

Table 1. Regression of Potential for Political Violence Against Measures of Static Relative Gratification

Regression Equation	r^2	Analysis of Variance	df	mean square	F
Achieved Relative Gratification					
1) PPV = $-.166(W_p)+3.542$	.04	regression	1	97.09	20.99
		residual	455	4.63	$p<.001$
2) PPV = $-.122(I_p)+3.166$	.02	regression	1	48.64	10.68
		residual	483	4.56	$p<.01$
3) PPV = $-.184(H_p)+3.589$	.05	regression	1	116.23	25.77
		residual	487	4.51	$p<.001$
4) PPV = $-.156(C_p)+3.851$	.03	regression	1	44.01	8.81
		residual	296	5.0	$p<.01$
Expected Relative Gratification					
5) PPV = $.003(W_{p+5})+2.518$	.00	regression	1	.03	.01
		residual	394	4.74	n.s.
6) PPV = $.031(I_{p+5})+2.266$	.00	regression	1	3.49	.75
		residual	436	4.63	n.s.
7) PPV = $.016(H_{p+5})+2.358$	.00	regression	1	.88	.19
		residual	459	4.68	n.s.
8) PPV = $-.017(C_{p+5})+2.879$	.00	regression	1	.48	.09
		residual	283	5.17	n.s.

In previous research, the Self-Anchoring scale has been dichotomized or trichotomized and the measure of violence potential also often has been a dichotomized variable.[39] When we collapse our relative gratification variables into trichotomies by the usual procedure, and dichotomize PPV at the mean, we may test the following hypotheses of inverse monotonic relationships:

BP_1'': The higher the congruency ranking on $W_p, \ldots C_p$, the lesser will be the proportion of individuals scoring high on PPV.

BP_2'': The higher the congruency ranking on $W_{p+5}, \ldots C_{p+5}$, the lesser will be the proportion of individuals scoring high on PPV.

tive Gratification, then a person with a score of "0" on Achieved Relative Gratification should have a score of "10" on PPV and a person with a score of "10" on Achieved Relative Gratification should have a score of "0" on PPV. However, the equation for PPV regressed against W_p, for example, estimates that, given a score of "0" on W_p, a person will have a score of only 3,542 on PPV ($-.166 \times 0 + 3.542 = 3.542$); whereas, given a score of "10" on W_p, a person's predicted PPV score is 1.882 ($-.166 \times 10 + 3.542 = 1.882$).

[39] See: Bowen et al., "Deprivation, Mobility, and Orientation Toward Protest of the Urban Poor;" Thomas J. Crawford and Murray Naditch, "Relative Deprivation, Powerlessness, and Militancy: The Psychology of Social Protest," *Psychiatry* (May, 1970), 208–223.

Table 2 shows the relationships between the dicotomized PPV variable and the trichotomized relative gratification variables. For the cases of W_p and H_p, the BP_1'' hypothesis clearly is confirmed. The percentage comparisons show that the proportion scoring high on PPV does decrease consistently as congruency ranking on W_p and on H_p increases, and the chi square value for these relationships is less than .01, the alpha level we shall select for rejection of the null hypothesis. In the case of I_p, the chi square value is greater than .01, therefore, we conclude that PPV level is unrelated to I_p level and reject BP_1''. For the relationship between PPV and C_p the chi square value is significant at less than .01, but the percentage comparisons show that the effect of C_p on the PPV level occurs from low to medium levels of congruency, where the proportion scoring high on PPV declines fairly precipitously, but not from medium to high congruency, where the proportion high on PPV levels off. Thus, we reject BP_1'' for the case of C_p, although we note that the observed relationship is consistent with an inverse nonstrict monotonic hypothesis of the form, as C_p increases, the proportion high on PPV decreases or remains the same.

The chi square values for the relationships

between PPV and the Expected Relative Gratification variables are all greater than .01. For this sample we conclude that PPV level is unrelated to the trichotomized Expected Relative Gratification variables and reject BP_2''

The relationships shown in Table 2 are similar to those found in the Cleveland study reported by Don R. Bowen, Elinor Bowen, Sheldon Gawiser, and Louis H. Masotti.[40] Percentage comparisons for the Cleveland sample were as predicted by BP_1'', although the chi square value for the relationship was significant at only the .10 level. Hypothesis BP_2'' was clearly disconfirmed for the Cleveland sample. Other studies also appear to support BP_1'', but the percentage comparisons do not seem to indicate very strong monotonic relationships.[41]

Thus, key propositions of achievement discrepancy theory, when operationalized in a form recommended by a number of its advocates (to wit, using the Self-Anchoring scale to measure discrepancy) are not confirmed by our data. For this sample, our measure of potential for political violence clearly is not strongly correlated with degree of relative gratification in the present and is uncorrelated with degree of relative gratification expected in the future. When we trichotomize and dichotomize our variables, our findings are quite similar to those reported in earlier studies of different communities, i.e., some—but apparently not very strong—monotonic association between potential for political violence and expected level of relative gratification. We conclude that, at least in American urban communities, it is unlikely that as level of relative gratification expected in the future increases, potential for political violence will decrease; and while it is likely that as the level of relative gratification in the present increases, potential for political violence will tend to decrease, the relationship probably will not be of the predictive strength postulated by proponents of achievement discrepancy theory.

Dynamic Relative Gratification. Given our measures of degree of perceived congruence between achievement optimum and actual achievement for the present, five years in the past, and five years in the future, we may define fourteen different patterns of relative gratification over time. These patterns are depicted graphically in Figure 1. Graphs a, b, and c are clear Rise-and-Drop or *J*-Curve patterns. Graphs d, e, and f all show Decreasing relative gratification from past to future. Graphs g and h show a No-Change pattern of relative deprivation and of gratification, respectively. Graphs i, j, and k show Increasing relative gratification from past to future. Graphs l, m, and n are clear Drop-and-Rise or Reverse *J*-Curve patterns.

Table 3 shows the mean PPV scores for each pattern of relative gratification on the four welfare values. The JC_1 hypothesis predicts that individuals characterized by the Rise and Drop

[40] See Table 2 at page 193 in "Deprivation, Mobility, and Orientation Toward Protest of the Urban Poor."

[41] See: Table 1 at page 211 of Crawford and Naditch, "Relative Deprivation, Powerlessness, and Militancy: The Psychology of Social Protest"; pages 136 and 137 in David O. Sears and John B. McConahay, "Racial Socialization, Comparison Levels, and the Watts Riot," *Journal of Social Issues*, 26 (Number 1, 1970). 121–140; Table 1 at page 586 of H. Edward Ransford, "Isolation, Powerlessness, and Violence: A Study of Attitudes and Participation in the Watts Riot," *American Journal of Sociology*, 73 (1968), 581–591.

Table 2. Relationships Between Potential for Political Violence (Dichotomized) and Measures of Static Relative Gratification (Trichotomized)

		Achieved Relative Gratification											
		W_p			I_p			H_p			C_p		
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
PPV	Low	61.1	68.8	78.8	64.2	74.0	77.4	52.8	73.1	81.0	39.1	70.6	71.1
	High	38.9	31.3	21.2	35.8	26.0	23.6	47.2	26.9	19.0	60.9	29.4	28.9
		100%	101%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
		$\chi^2=10.61$		$p<.01$	$\chi^2=5.26$		n.s.	$\chi^2=22.63$		$p<.001$	$\chi^2=9.93$		$p<.01$
		Expected Relative Gratification											
		W_{p+5}			I_{p+5}			H_{p+5}			C_{p+5}		
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
PPV	Low	66.1	75.4	72.5	68.2	80.2	71.1	61.2	79.8	72.4	46.7	73.8	67.3
	High	33.9	24.6	27.5	31.8	19.8	28.9	38.8	20.2	27.6	53.3	26.2	32.7
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
		$\chi^2=1.47$		n.s.	$\chi^2=4.05$		n.s.	$\chi^2=6.34$		n.s.	$\chi^2=4.17$		n.s.

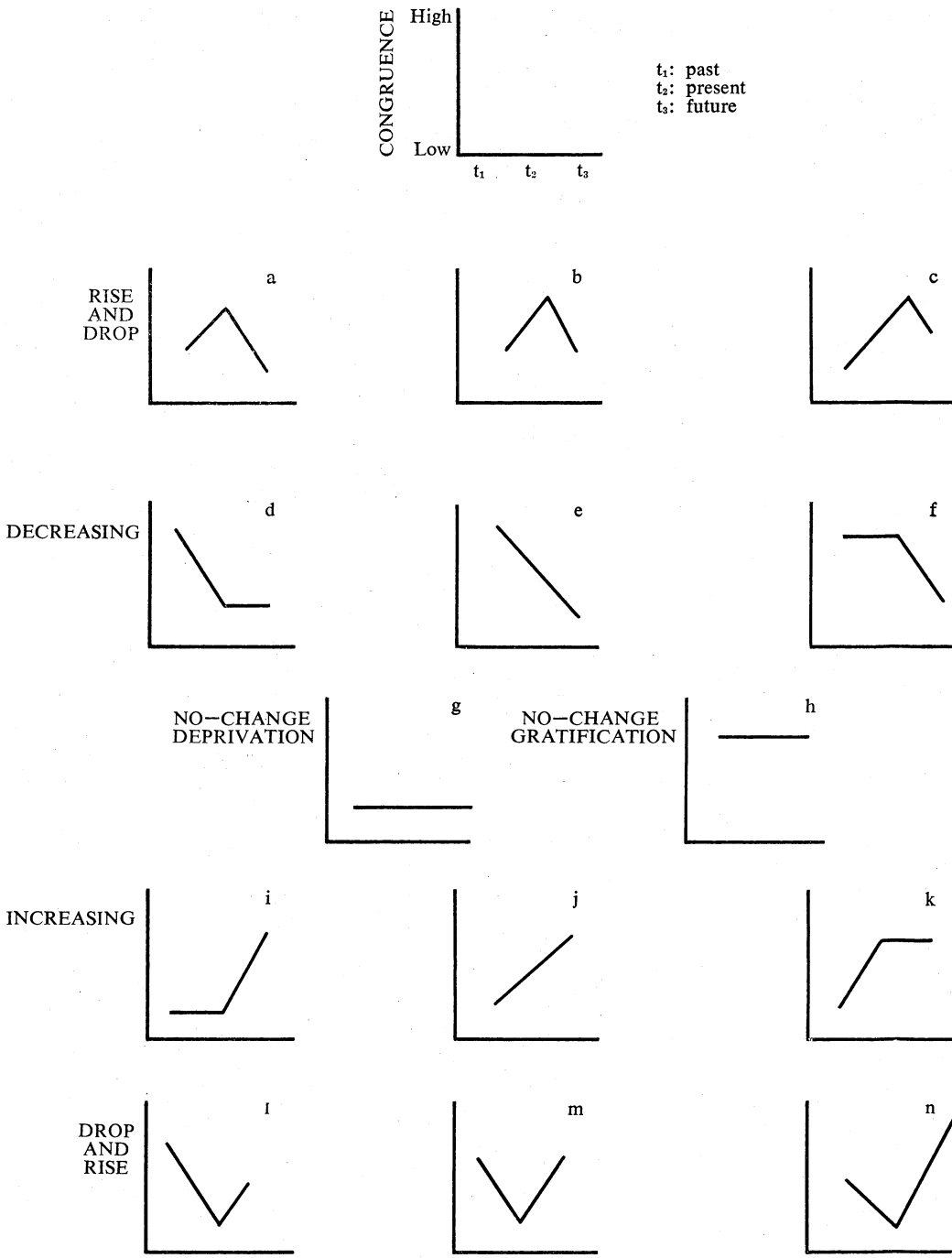


Figure 1. Patterns of shift in relative gratification over time

patterns will show a higher mean PPV than individuals characterized by any of the other patterns. The JC_2 hypothesis predicts that individuals characterized by the Rise-and-Drop patterns will show a higher mean PPV than individuals characterized by the No-Change patterns and that individuals characterized by the Drop-and-Rise patterns will show a lower mean PPV than individuals characterized by the No-Change patterns. The bottom half of Table 3 presents the relevant comparisons between means for testing JC_1 and JC_2. Table 3 shows that our predictions are correct in only 14 of 33 comparisons for patterns on the Work variable; in only 16 of 33 comparisons on the income variables; and in none of the possible 11 comparisons on the housing variable. For JC_1 the Confirmation Index (CI) is thus .39: our prediction that the Rise-and-Drop patterns will have the greatest mean PPV is borne out by these data only 39 per cent of the time. Since Rise-and-Drop patterns *do not show* higher mean PPV than other patterns 61 per cent of the time, we interpret this as clear disconfirmation of JC_1.

Table 3 shows that our JC_2 predictions are correct in only 5 of 12 comparisons for patterns on the Work variable, 6 to 12 comparisons on the Income variable, 0 of 8 comparisons on the Housing variable, and 0 of 2 comparisons on the Children variable. The Confirmation Index for JC_2 in .32. Our prediction that Rise-and-

Table 3. Mean Potential for Political Violence Scores for Patterns of Shift in Relative Gratification Over Time

	Pattern	Work	Income	Housing	Children
	a	2.4	3.5	***	***
Rise-and-Drop	*b*	1.5	1.5	1.2	***
	c	3.1	2.0	***	***
	d	1.7	2.0	1.7	***
Decreasing	*e*	3.5	3.6	3.2	4.0
	f	2.5	1.4	2.3	***
No-Change Deprivation	*g*	2.1	1.3	2.2	1.5
No-Change Gratification	*h*	1.6	1.3	1.8	1.6
	i	3.4	3.2	2.6	2.6
Increasing	*j*	2.9	2.8	3.0	3.3
	k	2.1	2.4	2.2	2.6
	l	1.7	2.2	2.6	***
Drop-and-Rise	*m*	2.3	2.9	4.3	***
	n	3.4	2.9	3.0	5.3

*** less than five cases

JC_1 Comparisons:

		Work	Income	Housing	Children
a	*d, e, . . . n:*	6 of 11	10 of 11	—	—
b	*d, e, . . . n:*	0 of 11	3 of 11	0 of 11	—
c	*d, e, . . . n:*	8 of 11	3 of 11	—	—

Confirmation Index = 30 ÷ 77 = .39

JC_2 Comparisons:

		Work	Income	Housing	Children
a	*g, h:*	2 of 2	2 of 2	—	—
b	*g, h:*	0 of 2	2 of 2	0 of 2	—
c	*g, h:*	2 of 2	2 of 2	—	—
l	*g, h:*	1 of 2	0 of 2	0 of 2	—
m	*g, h:*	0 of 2	0 of 2	0 of 2	—
n	*g, h:*	0 of 2	0 of 2	0 of 2	0 of 2

Confirmation Index = 11 ÷ 34 = .32

Table 4. Relationships Between Potential for Political Violence (Dichotomized) and Patterns of Shift in Relative Gratification Over Time

		Work Gratification					
		Rise-and-Drop	Decreasing	No-Change Deprivation	No-Change Gratification	Increasing	Drop-and-Rise
PPV	Low	72.7	66.7	90.0	87.8	68.4	65.5
	High	27.3	33.3	10.0	12.2	31.6	34.5
		100%	100%	100%	100%	100%	100%
	N=	22	63	10	49	187	29
		$\chi^2=10.11$	n.s.				
		Income Gratification					
		Rise-and-Drop	Decreasing	No-Change Deprivation	No-Change Gratification	Increasing	Drop-and-Rise
PPV	Low	64.0	75.3	100.0	91.7	68.9	65.7
	High	36.0	24.7	0.0	8.3	31.1	34.3
		100%	100%	100%	100%	100%	100%
	N=	25	73	20	36	225	35
		$\chi^2=17.84$	$p<.01$				
		Housing Gratification					
		Rise-and-Drop	Decreasing	No-Change Deprivation	No-Change Gratification	Increasing	Drop-and-Rise
PPV	Low	81.8	70.0	78.2	89.6	67.8	58.3
	High	18.2	30.0	21.8	10.4	32.2	41.7
		100%	100%	100%	100%	100%	100%
	N=	11	50	55	96	180	48
		$\chi^2=22.72$	$p<.001$				
		Children Gratification					
		Rise-and-Drop	Decreasing	No-Change Deprivation	No-Change Gratification	Increasing	Drop-and-Rise
PPV	Low	20.0	55.0	85.0	90.6	65.7	33.3
	High	80.0	45.0	15.0	9.4	34.3	66.7
		100%	100%	100%	100%	100%	100%
	N=	5	20	20	53	134	12
		$\chi^2=29.32$	$p<.001$				

Drop patterns will show higher mean PPV while Drop-and-Rise patterns show lower mean PPV than No-Change patterns is wrong 68 per cent of the time; therefore, we interpret this .32 index value as providing clear disconfirmation of JC_2. In fact, if we examine the JC_2 comparisons closely, we find a consistent reason for the disconfirmation of JC_2: most of the Rise-and-Drop predictions are correct ($CI = 10 \div 14 = .72$), but almost all of the Drop-and-Rise predictions are incorrect ($CI = 1 \div 20 = .05$). If we hypothesized that both Rise-and-Drop *and* Drop-and-Rise patterns would show higher mean PPV than

No-Change patterns, our Confirmation Index is $29 \div 34 = .85$.

When PPV is dichotomized into low and high categories, we may test the hypothesis:

JC_3: If individuals are classified into Rise-and-Drop, Decreasing, No-Change Deprivation, No-Change Gratification, Increasing, and Drop-and-Rise patterns of relative gratification over time, those in the Rise-and-Drop and Decreasing categories will show a greater proportion high on PPV than those in the two No-Change categories while those in the Increasing and Drop-and-Rise categories will show a lesser proportion high on PPV than those in the two No-Change categories.

Table 4 shows the relationships between temporal relative gratification pattern on each welfare value and PPV. For the relationship between the Work variable and PPV we do not reject the null hypothesis, since chi square is not significant at the .01 level. But for Income, Housing, and Children, chi square is significant at well below the .01 level. However, the percentage comparisons show that in each of these instances, while those in the Rise-and-Drop and Decreasing categories do tend to score high on PPV than do those in the No-Change categories. Those in the Increasing and Drop-and-Rise categories never show a lesser tendency to score high on PPV than the No-Change categories. In fact the Increasing and Drop-and-Rise categories always yield higher scores on PPV than do the No-Change categories—as high, in fact, generally as the Rise-and-Drop and Decreasing categories! These data clearly disconfirm JC_3; and they equally clearly confirm (for the Income and Children variables), the alternative hypothesis:

JC_4: The proportion of individuals scoring high on PPV will decrease from Rise-and-Drop and Decreasing categories to the No-Change Deprivation category and will then increase from the No-Change Gratification category to the Increasing and Drop-and-Rise categories.

The percentage comparisons show the same thing as the comparisons between means presented in Table 3: the *J*-Curve hypothesis is not supported because individuals who perceive a drop and then a rise in congruence between achievement optimum and actual achievement have nearly the same tendency to score high on PPV as those who perceive the *J*-Curve pattern of a rise and then a drop in congruence. If we consider only patterns of relative *deprivation* over time—Rise-and-Drop, Decreasing, No-Change—then the *J*-Curve thesis that the Rise-and-Drop group will be the most violence-prone is supported for two of the four welfare values (Income and Children). But in any society, many individuals will perceive patterns of relative *gratification* over time—No-Change, Increasing, Drop-and-Rise; and among these individuals, the Drop-and-Rise group is the most violence-prone for three of the four welfare values (Income, Housing, Children). In short, it does not seem to be a particular direction of change as exemplified by the *J*-Curve which produces the greatest tendency to violence-proneness; rather, violence-proneness seems to result from any directional change in degree of congruence between achievement optimum and achievement over time.[42]

In contrast to the *J*-Curve hypothesis, which focuses on *change in direction of* achievement discrepancy over time, the Rate-of-Change hypothesis focuses on the *direction (and amount) of change* in achievement discrepancy over time. Given our past, present, and future Self-Anchoring scale scores for each of the four welfare values, we may construct the following Rate-of-Change variables (range: -10 to $+10$):

$PF_{w,\ldots,c}$: Past to Future shift in achievement congruence; as $W_{p+5}-W_{p-5}, \ldots C_{p+5}-C_{p-5}$.

$AI_{w,\ldots,c}$: Anticipated Increase shift in achievement congruence; defined as $W_{p+5}-W_p, \ldots C_{p+5}-C_p$.

$EI_{w,\ldots,c}$: Experienced Increase shift in achievement congruence: defined as $W_F-W_{p-5}, \ldots C_p-C_{p-5}$.

These variables measure direction and amount of perceived change in the gap between a person's achievement optimum and actual level of achievement with respect to different temporal comparisons: past versus future; present versus future; and past versus present. A positive score indicates that the person perceives a decreasing gap; a score of zero indicates that the person perceives no change in the size of the gap; a negative score indicates that a person perceives an increasing gap.

If we assume that our variables are interval scales, we may test the Rate-of-Change hypothesis:

RC': The relationship between PPV and $PF_{w,\ldots,c}$, $AI_{w,\ldots,c}$, $EI_{w,\ldots c}$ will show a relatively close fit to an inverse linear function.

[42] When the Long-Term Welfare Gratification measure constructed by Muller (see appendix in "A Test of a Partial Theory of Potential for Political Violence") is trichotomized into "low" (-10 to -1), "medium" (0 to 10), and "high" (11 to 20) categories, the same kind of relationship appears: persons in the low (negative change) and high (positive change) categories consistently show higher mean PPV than persons in the medium (very little change) category.

Table 5. Correlations (r): Potential for Political Violence with Measures of Rate-of-Change Gratification

Welfare Value	Rate-of-Change Gratification		
	Past to Future	Anticipated Increase	Experienced Increase
Work	.061†	.135**	−.033†
$N=$	(361)	(394)	(418)
Income	.095*	.146***	.028†
$N=$	(414)	(438)	(457)
Housing	.082*	.225***	−.120**
$N=$	(440)	(461)	(465)
Children	.120*	.160**	.013†
$N=$	(244)	(281)	(260)

* $p<.05$
** $p<.01$
*** $p<.001$
† $p>.05$

In Table 5 we simply report the correlation coefficients, rather than the complete regression equations. As we might expect, given our findings for the tests of the *J*-Curve hypothesis, these data disconfirm RC′ in every instance. The correlations between the Rate-of-Change variables and PPV are consistently minuscule. They indicate that PPV shows no tendency to vary linearly with the PF variables, practically no tendency to vary linearly with the EI variables, and only a slight tendency to vary linearly with the AI variables—and in the case of the AI variables; the slight linear relationships with PPV are all in the wrong direction![43]

Table 6 shows why RC′ is not confirmed. For convenience of presentation, we have trichotomized the Rate-of-Change variables into Negative Change, No-Change, and Positive Change categories. In every case, mean PPV decreases from the Negative Change group to the No-Change group, but then *increases* from the No-Change group to the Positive Change group; and in most instances, the Positive Change group shows about the same mean PPV as the Negative Change group.

For the PPV dichtomy and the Rate-of-Change trichotomies, we may test the following hypothesis of inverse monotonic association:

RC″: The more positive is the shift over time in congruence between achievement optimum and achievement, the lower the PPV.

Of course, on the basis of our examination of the *J*-Curve hypothesis and the distribution of mean PPV scores for the Rate-of-Change variables, we expect that RC″ will be disconfirmed; and we expect that an alternative Absolute Change hypothesis will be confirmed:

AC: Individuals who perceive any shift over time in congruence between achievement optimum and actual achievement, regardless of whether the direction of shift is positive or negative, will be more likely to score high

[43] Our alpha level for rejection of the null hypothesis is .01.

Table 6. Mean Potential for Political Violence Scores for Measures of Rate-of-Change Gratification Trichotomized by Direction of Change[a]

Welfare Value	Rate-of-Change Gratification								
	Past to Future			Anticipated Increase			Experienced Increase		
	(−)	(0)	(+)	(−)	(0)	(+)	(−)	(0)	(+)
Work	2.6	1.8	2.8	2.9	1.8	2.9	2.8	2.1	2.6
$N=$	(79)	(76)	(206)	(67)	(138)	(189)	(96)	(134)	(188)
Income	2.5	1.6	2.7	2.5	1.9	2.9	2.7	1.8	2.6
$N=$	(95)	(77)	(242)	(74)	(148)	(216)	(98)	(129)	(230)
Housing	2.6	2.1	2.7	2.6	2.0	3.0	3.1	2.0	2.6
$N=$	(65)	(174)	(201)	(49)	(227)	(185)	(84)	(243)	(138)
Children's Education	3.4	1.8	3.0	3.8	2.2	3.3	4.1	1.7	3.1
$N=$	(25)	(78)	(141)	(25)	(142)	(114)	(31)	(108)	(121)

[a] (−) = −10 thru −1; (0) = 0; (+) = 1 thru 10.

on PPV than will individuals who perceive no such shift over time in congruence.

According to the Absolute Change hypothesis, the proportion scoring high on PPV in Negative Change, No-Change, and Positive Change categories should conform to a "*V*" pattern if we display these proportions on a graph with the percentage high on PPV shown along with ordinate.

The relationships between the Past to Future shift categories and the PPV dichotomy are depicted graphically in Figure 2. For alpha of .01 the chi square for the relationship between PF_w and PPV is not statistically significant, and we accept the null hypothesis —although we note that the chi square value approaches the .01 level of significance and that the percentage comparisons are in accord with the Absolute Change or *V*-Curve prediction. We reject the null hypothesis for every other relationship between a Past to Future shift variable and PPV. The percentage comparisons show that RC″ is disconfirmed for the Income, Housing, and Children variables. And it is evident that the significant differences in proportions scoring high on PPV are between Negative Change as opposed to No-Change and between Positive Change as opposed to No-Change, but not between Negative Change as opposed to Positive Change. The proportions scoring high on PPV conform to the "*V*" pattern indicative of the Absolute Change relationship; thus, in these three instances, the AC hypothesis clearly is confirmed.

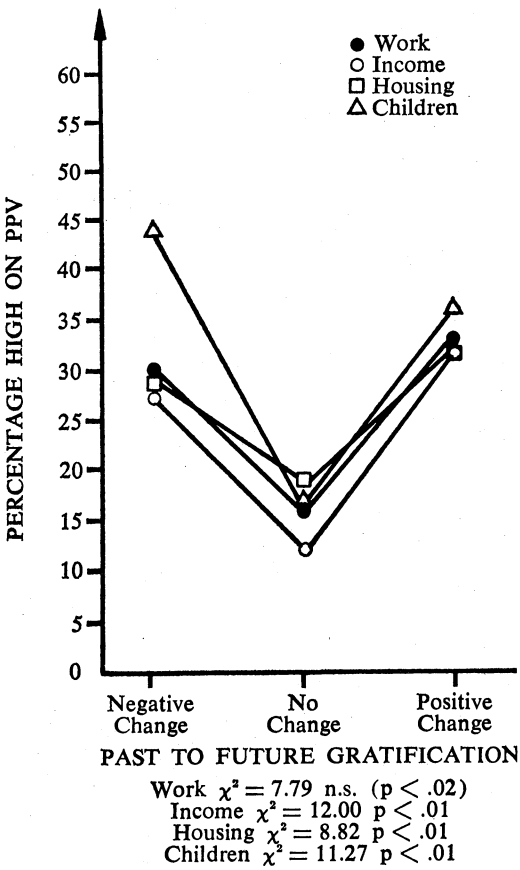


Figure 2. Percentage high on potential for political violence by direction of change category on measures of past to future gratification

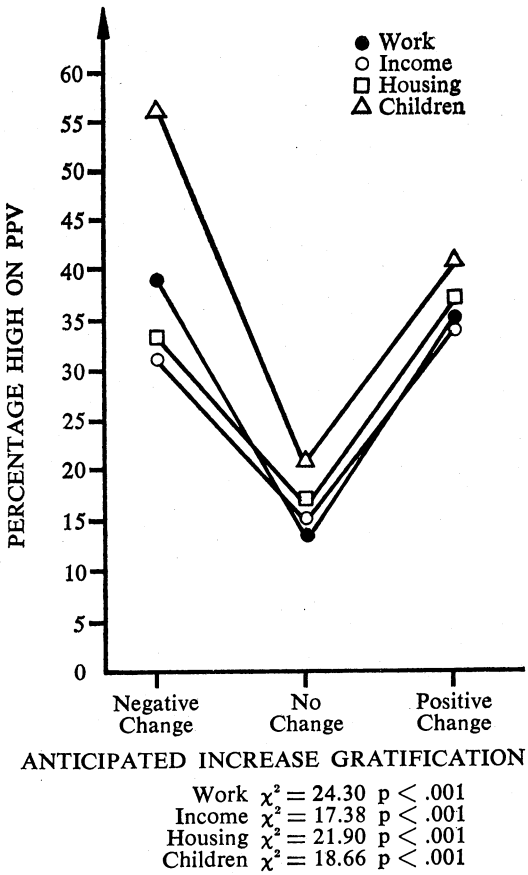


Figure 3. Percentage high on potential for political violence by direction of change category on measures of anticipated increase in gratification

In Figure 3 we plot the proportions scoring high on PPV for the direction of shift categories on the Present to Future shift variables. Since chi square is statistically significant at well below the .01 level for each of the four relationships, we reject the null hypothesis in every instance. The proportion

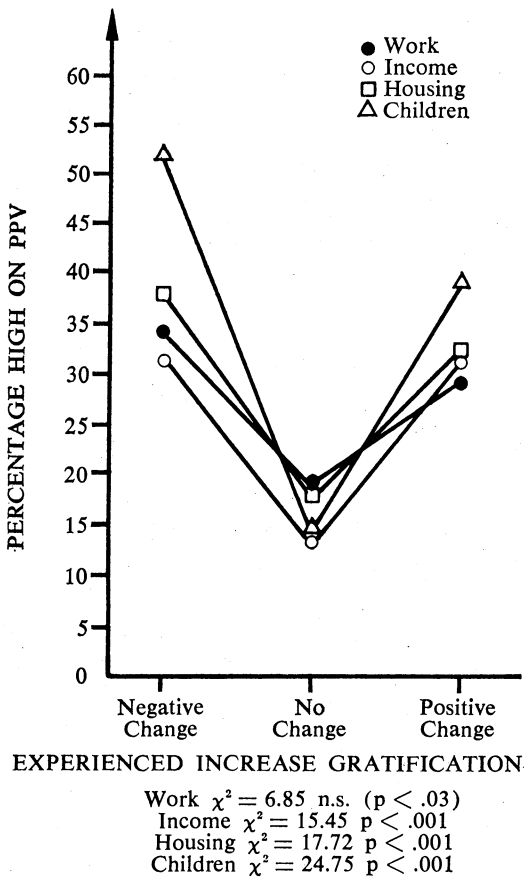


Figure 4. Percentage high on potential for political violence by direction of change category on measures of experienced increase in gratification

scoring high on PPV always decreases from perceived negative shift in relative gratification over time to no shift, but it always *increases* from no shift to positive shift. Thus, we reject RC″. It is evident that significantly more of the Negative Change and Positive Change groups are high on PPV; and, excepting the Children variable, the proportion scoring high on PPV for the Negative Change groups is approximately equal to that for the Positive Change groups. Thus, each of the percentage comparisons plots as a distinct *V*-Curve, confirming the AC hypothesis.

Figure 4 depicts the proportions high on PPV for the Past to Present shift categories. With the exception of the Work variable, the chi-square values are well below the .01 level, and we reject the null hypothesis; also, for the relationship between EI_w and PPV we note that chi square is close to the .01 level and that percentage comparisons do plot as a *V*-Curve. On the Income, Housing, and Children variables, the No-Change groups range from 13 to 19 per cent high on PPV, whereas the Negative Change groups range from 31 to 57 per cent high on PPV and the Positive Change groups range from 29 to 39 per cent high on PPV. These relationships clearly conform to the "*V*" pattern, and we again reject the RC″ hypothesis, but accept the AC hypothesis.

Since the percentage comparisons are as predicted by AC for all 12 of these relationships, and since chi square is significant at or beyond the .01 level in 10 of the 12 relationships, we regard these data as providing consistent support for the Absolute Change or *V*-Curve hypothesis. Moreover, the only other test of a Rate-of-Change hypothesis that we know of, reported by Bowen et al. for their Cleveland sample, also disconfirmed RC″ and supported AC, the Absolute Change hypothesis, in the case of the relationship between Protest Orientation and an Anticipated Increase measure built from the "best possible life" version of the Self-Anchoring scale.[44]

Mean PPV by Rate-of-Change Categories and Control Variables. We have found generally consistent confirmation for the Absolute Change hypothesis across the entire sample. Even more dramatic support will be provided if it turns out that the Absolute Change predictions are borne out for various subsamples. In this section we shall examine the relationships between PPV and composite Rate-of-Change variables, controlling for levels of three variables which might produce a specification effect on the Absolute Change relationship.

We shall control for levels of race, age, and education. These variables have been selected because it seems possible that certain correlates of each of these variables might be responsible for the absolute change relationship. In the case of race, blacks, of course, have been severely discriminated against in American society. Perhaps among this group, those perceiving no change have become so inured to their condition that even if they perceive continuing relative deprivation they will be unlikely to believe that anything can be about it, whereas those who have some hope of positive change will be

[44] See Table 5 at page 197 of Bowen et al., "Deprivation. Mobility, and Orientation Toward Protest of the Urban Poor," present-to-future shift on the Self-Anchoring scale is dichotomized into a change category ("Upward and Downward Mobility") and a no-change category ("No Mobility").

more violence-prone—and, indeed, as violence-prone as those who perceive negative change—because any improvement after a long period of abject subjugation will generate dissatisfaction with the *rate* of improvement. For the age variable, perhaps the absolute change relationship holds only among the old, because among this group those perceiving no change are resigned to their condition, whereas the group perceiving the possibility of any change will tend to include more activists who, regardless of the direction of perceived change, would score higher on PPV. Similarly in the case of education, perhaps among the group with only a grade school education, those perceiving no change would be particularly apathetic toward the possibility of altering their circumstances, whereas the group perceiving the possibility of any change would tend to include more activists.

To simplify our presentation we have constructed composite Rate-of-Change variables, and we examine mean scores on PPV for the various combinations of direction of shift categories and levels of control variables. Since the number of cases on the Children variables is so much smaller than the N on the other welfare value measures, we have excluded the Children variables from the composite variables (range: -30 to $+30$), which are:

PFG: Past-to-Future Gratification. Sum of scores on PF_w, PF_i, and PF_h.
AIG: Anticipated Increase Gratification: Sum of scores on AI_w, AI_i, and AI_h.
EIG: Experienced Increase Gratification. Sum of scores on EI_w, EI_i, and EI_h.

If a respondent was missing a score for two or more of the component variables, the case was excluded; if only one score was missing, the mean of that variable was assigned. (The percentage of cases missing on PFG, AIG, and EIG was, respectively, 16 per cent, 12 per cent, and 8 per cent.)

Table 7 shows mean PPV by PFG shift category and levels of the control variables. Regardless of levels of race, age, and education, the Negative Change and Positive Change groups consistently score higher on PPV than does the No-Change group.

Table 8 shows mean PPV by AIG shift category and levels of the control variables. Again, regardless of race and education, individuals who anticipate any change in relative gratification—whether negative or positive—are more violence-prone on the average than individuals

Table 7. Mean Potential for Political Violence Scores for Direction of Rate of Change Gratification Stratified by Test Factors

Past-Future Gratification[a]		Negative Change (−)			No Change (0)			Positive Change (+)		
	N=	2.4 (108)			1.2 (39)			2.6 (274)		
By:										
Race		Black						White		
		(−)	(0)	(+)				(−)	(0)	(+)
	N=	3.2 (46)	1.7 (07)	3.7 (32)				1.9 (62)	1.1 (32)	1.9 (168)
Age		18 to 33			34 to 57			58 and up		
		(−)	(0)	(+)	(−)	(0)	(+)	(−)	(0)	(+)
	N=	4.1 (15)	1.5 (06)	3.0 (109)	2.8 (46)	1.2 (18)	2.5 (130)	1.6 (47)	1.2 (15)	1.7 (35)
Education[b]		Grade School			High School			College		
		(−)	(0)	(+)	(−)	(0)	(+)	(−)	(0)	(+)
	N=	(41)	(10)	(48)	(49)	(23)	(179)	(18)	(06)	(47)

[a] Rate of Change Gratification: (−) = −30 thru −1; (0) = 0; (+) = 1 thru 30.
[b] Education: Grade School = no schooling, some grade, completed grade;
High School = some high, completed high, or some high + technical, completed high + technical;
College = some college, complete college, completed college + graduate.

Table 8. Mean Potential for Political Violence Scores for Direction of Anticipated Increase Gratification Stratified by Test Factors

Anticipated Increase Gratification		Negative Change (−)	No Change (0)	Positive Change (+)
		2.2	1.6	2.8
	$N=$	(86)	(70)	(286)

By: Race		Black (−)	Black (0)	Black (+)	White (−)	White (0)	White (+)
		3.3	2.4	3.7	1.5	1.3	2.2
	$N=$	(36)	(18)	(108)	(50)	(18)	(178)

Age		18 to 33 (−)	18 to 33 (0)	18 to 33 (+)	34 to 57 (−)	34 to 57 (0)	34 to 57 (+)	58 and up (−)	58 and up (0)	58 and up (+)
		3.5	1.9	3.1	2.8	1.5	2.8	1.2	1.8	1.7
	$N=$	(10)	(07)	(135)	(42)	(43)	(109)	(34)	(20)	(42)

Education		Grade School (−)	Grade School (0)	Grade School (+)	High School (−)	High School (0)	High School (+)	College (−)	College (0)	College (+)
		2.6	1.6	2.8	2.1	1.7	2.6	1.8	1.5	3.4
	$N=$	(30)	(21)	(48)	(46)	(41)	(182)	(10)	(08)	(56)

who do not anticipate any change in relative gratification. Also, among the young and the middle-aged, those who anticipate any change in relative gratification show higher mean PPV than those who do not anticipate any change. Only among the old does the Absolute Change relationship disappear (whereas we thought possibly that the Absolute Change relationship might *appear* only among the old); and in this case, both the No-Change and Positive Change

Table 9. Mean Potential for Political Violence Scores for Direction of Experienced Increase Gratification by Race, Age, and Education

Experienced Increase Gratification		Negative Change (−)	No Change (0)	Positive Change (+)
		2.8	1.8	2.4
	$N=$	(129)	(71)	(264)

By: Race		Black (−)	Black (0)	Black (+)	White (−)	White (0)	White (+)
		3.2	4.6	3.5	2.3	1.1	1.8
	$N=$	(69)	(14)	(95)	(60)	(57)	(169)

Age		18 to 33 (−)	18 to 33 (0)	18 to 33 (+)	34 to 57 (−)	34 to 57 (0)	34 to 57 (+)	58 and up (−)	58 and up (0)	58 and up (+)
		4.2	2.1	2.8	2.8	2.6	2.3	1.7	1.2	1.7
	$N=$	(34)	(07)	(94)	(50)	(27)	(129)	(45)	(37)	(41)

Education		Grade School (−)	Grade School (0)	Grade School (+)	High School (−)	High School (0)	High School (+)	College (−)	College (0)	College (+)
		2.7	1.6	2.3	2.5	2.1	2.4	4.6	1.3	2.4
	$N=$	(52)	(28)	(46)	(63)	(36)	(166)	(14)	(07)	(52)

groups show slightly *higher* mean PPV than the Negative Change group.

Table 9 shows mean PPV by EIG shift category and levels of the control variables. The Absolute Change or *V*-Curve relationship holds up for whites. But for blacks, instead of the negative monotonic relationship which we thought might possibly show up, the No-Change group on EIG shows a higher mean PPV than do the Negative Change and Positive Change groups. When age is controlled for, we see that the Absolute Change relationship holds up among the young and the old; but among the middle-aged the Absolute Change relationship disappears. Mean PPV appears to decrease from Negative Change to No Change to Positive Change on EIG for persons between 34 and 57 years of age; however, the differences between the means—particularly for the Negative Change and No Change groups—is quite small. Finally, when level of education is controlled for, we observe that the Absolute Change relationship holds up among persons with only a grade school education, among those with a high school education, and among the college group.

First of all, none of our expectations about how levels of the control variables might affect the *V*-Curve are borne out. We do not find a negative monotonic relationship between mean PPV and the shift categories on the Rate-of-Change variables among blacks, or among the young and middle-aged, or among persons with high school or college training. For all the Rate-of-Change variables, at all levels of all the control variables we observe only one instance of a possible negative monotonic relationship (PPV by shift category on EIG among persons aged 34 to 57); and in this instance the differences between means are not large enough to warrant confidence in a negative monotonic relationship of real importance. Second, the Absolute Change relationship holds up in every instance for the PFG variable, and in most instances for the AIG and EIG variables, regardless of levels of race, age, and education. Controlling for these attributes generally has little or no effect on the *V*-Curve.

Absolute Change as a Predictor of PPV. If we assume that PFG and AIG are interval scales, we may test two Absolute Change hypotheses:

AC′: Potential for political violence will tend to decrease at a decelerated rate as change in relative gratification decreases from high negative to zero and will tend to increase at an accelerated rate as change in relative gratification increases from zero to high positive.

AC″: Potential for political violence will tend to increase as absolute magnitude of change in relative gratification increases.

The AC′ hypothesis may be tested by examining whether the relationship between PPV and the rate-of-change variables fits a quadratic function rule; the AC″ hypothesis may be tested by examining whether the relationship between PPV and the absolute magnitude of rate-of-change scores fits a linear function rule. We expected that our data would support both AC′ and AC″. But in examining scatterplots, we conjectured that the relationship between PPV and the rate-of-change variables would resemble a *"V"* pattern rather than a *"U"* pattern, suggesting that the data should show a closer fit to AC″ than to AC′.

Table 10 shows that AC′ and AC″ are confirmed for the three composite Rate-of-Change variables. The *F* values for the quadratic regressions, and for the linear regressions with absolute magnitude PFG, AIG, and EIG scores (range—0 to 30), are statistically significant at less than .01. The r^2 values, however, show that the absolute magnitude PFG scores explain twice as much of the variance in PPV as does the quadratic function on negative to positive scores; the absolute magnitude AIG scores explain one and one-half as much of the variance in PPV as the quadratic function on negative to positive AIG scores; and the absolute magnitude EIG scores explain one and two-thirds as much of the variance in PPV as the quadratic function on negative to positive EIG scores. In fact, the absolute magnitude AIG variable (|AIG|) explains 9 per cent of the variance in PPV. We regard this as only a moderate degree of correlation ($r = .30$) i.e., a barely moderate degree of fit to a linear relationship. (Also, if we treat |AIG| and PPV as only ordinal scales, the Spearman rank-order correlation between them is .31.) The absolute magnitude of anticipated rate-of-change in relative gratification is the only achievement discrepancy variable in this sample which shows a moderate correlation with PPV.

In an earlier report Muller proposed a partial theory of potential for political violence which postulated that potential for political violence would not vary with degree of relative gratification independent of political trust and belief that political violence had been a successful method of goal attainment in the past.[45] As predicted, it was found that a composite measure of present relative gratification indeed showed no correlation with potential for political violence independent of political trust and

[45] See Muller, "A Test of a Partial Theory of Potential for Political Violence."

Table 10. Regression of Potential for Political Violence Against Composite Measures of Dynamic Relative Gratification

Regression Equation	R^2/r^2	*Analysis of Variance* Mean of square F			
Quadratic:					
PPV = .002(PFG)+.003(PFG²)+2.195	.03	regression	2	30.55	6.84
		residual	415	4.47	$p<.01$
PPV = .060(AIG)+.004(AIG²)+2.178	.06	regression	2	66.23	14.93
		residual	438	4.44	$p<.001$
PPV = −.030(EIG) +.005(EIG²) +2.215	.03	regression	2	33.82	7.57
		residual	461	4.47	$p<.01$
Linear (Absolute Magnitude):					
PPV = .086(|PFG|)+1.741	.06	regression	1	113.61	26.31
		residual	416	4.32	$p<.001$
PPV = .129(|AIG|)+1.810	.09	regression	1	176.45	40.82
		residual	439	4.32	$p<.001$
PPV = .100(|EIG|) +1.844	.05	regression	1	109.46	25.12
		residual	462	4.36	$p<.001$

belief in the past utility of political violence.[46] Here we have found that the variable of absolute magnitude of relative gratification correlates with PPV more strongly than do any of the straightforward relative gratification variables. Our question now is: does PPV vary linearly with |AIG| regardless of political trust and belief in the past utility of political violence?

The potential for political violence model developed earlier postulates PPV as an additive linear function of Trust in Political Authorities and Efficacy of Past Violence. The Trust in Political Authorities (TPA) scale is a variable that measures generalized affect for political authorities, i.e., belief in the degree to which government officials, the police, and the courts wield power honestly, justly, and benevolently.[47] Scores were derived from the first component of a principal components analysis of 23 variables, and range from a low of −3.16 to a high of +1.98. The Efficacy of Past Violence (EPV) scale is a summation of scores on three items measuring belief in whether the use of political violence in the past by dissident groups has been helpful to, made no difference to or hurt the cause of the group.[48] EPV ranges from a low of 0 to a high of 6.

The earlier report showed that R^2 for PPV regressed against TPA and EPV equalled .30 for 480 cases with complete data. Table 11 shows that when we take |AIG| into account the sample is reduced to 426 cases with complete data. Model 1 is the original PPV model tested across the 426 cases with complete data on all the variables including |AIG|. The R^2 of .285 for model 1 across these 426 cases is slightly lower than R^2 for model 1 across the sample of 480 cases; however, the partial regression coefficients are virtually identical, underscoring the stability of the estimated parameters for model 1.

Model 2 includes the |AIG| term as a describing variable. The F value for |AIG| in the equation is statistically significant at less

[46] See Figure 5 in Muller, "A Test of a Partial Theory of Potential for Political Violence," p. 952.

[47] See the appendix in Muller, "A Test of a Partial Theory of Potential for Political Violence," pp. 955–959. Respondents were asked to report the degree to which they agreed or disagreed with statements such as the following: "The national government is pretty much run for the benefit of all the people instead of for a few big interests looking out for themselves;" "Most of the people running the national government are crooked;" "The national government can be trusted to do what is right just about always;" "Most policemen in the United States would be willing to take a bribe;" "On the whole, the police in the United States treat everyone equally, regardless of whether they are rich or poor, white or Negro;" "The courts in the United States give everyone a fair trial, regardless of whether they are rich or poor, white or Negro;" "If the courts in the United States find someone guilty of committing a crime, the length of his sentence will depend on whether he is rich or poor, white or Negro."

[48] See the appendix in Muller, "A Test of a Partial Theory of Potential for Political Violence," pp. 955–959. The questions referred to (1) riots that have taken place in large cities; (2) white groups that have fought with the police and destroyed public and private property in the cities in order to protest against American involvement in the war in Vietnam and other things that they dislike about American society; (3) Negro groups that have urged Negroes to arm themselves in order to be ready for shoot-outs with the police.

than .01 and the estimated |AIG| slope is well above its standard error. Also, with |AIG| in the equation, R^2 is raised to .32: thus |AIG| increases that accuracy of prediction by 3½ percentage points. Unlike the composite present relative gratification variable $(W_p + I_p + H_p)$, which the earlier report showed had no direct effect on PPV independent of TPA and EPV, |AIG| clearly has some —albeit relatively slight—direct effect on PPV independent of the other describing variables. An indication of the relative importance of |AIG| can be gained from the standardized partial regression coefficients (beta weights) for the describing variables in model 2 which are −.29 for the TPA variable, .30 for the EPV variable, and .19 for the |AIG| variable. Obviously, TPA and EPV are the most important predictors for this sample, but |AIG| is by no means irrelevant.[49] On the basis of our findings for model 2 we shall also add a fourth proposition to the partial theory of potential for political violence proposed earlier:

(4) Potential for political violence will vary directly with absolute magnitude of rate-of-change over time in relative gratification, regardless of belief that political violence has led to goal attainment and regardless of diffuse support for the political authority structure.

[49] The |PFG| and |EIG| terms also make an independent contribution, although somewhat smaller than that made by |AIG|. But particularly with |PFG| in the equation, the number of complete data cases is quite low.

We do not expect that any straightforward measures of degree of relative gratification, either static or dynamic, will correlate with potential for political violence, independent of belief in the past utility of political violence and political trust sentiment; but we do conjecture that the *absolute magnitude* of shift in relative gratification—particularly shift in relative gratification from present level to anticipated future level—may be a useful predictor in its own right of potential for political violence.

Conclusion

A common explanation of men's readiness to engage in acts of dissent which constitute progressively greater challenge to the state—their potential for political violence—accords major causal significance to degree of perceived discrepancy between optimum level of achievement and actual achievement with respect to important values. Actually, this achievement discrepancy hypothesis is a series of separate hypotheses, differentiated according to the definition of the concept of optimum achievement level. Tests of the achievement discrepancy hypothesis in any of its forms at the level of individual behavior have not been prolific. Most such tests have measured achievement discrep-

Table 11. Contribution of the Absolute Magnitude of Anticipated Increase Gratification to the Potential for Political Violence Model

Variables	Mean	Standard Deviation	Correlations (r)			
			PPV	TPA	EPV	|AIG|
PPV	2.48	2.17	1.00	− .446	.441	.306
TPA	0.01	0.99		1.00	− .380	− .232
EPV	1.18	1.46			1.00	.154
|AIG|	5.17	4.83				1.00

Number of cases = 426

	R^2	Describing Variables	Partial Regression Coefficients*	β_0	F
(1) $PPV = \beta_0 + \beta_1 TPA + \beta_2 EVP + \mu$	.285			1.935	
		TPA	−.713 (.098)		53.40
		EPV	.472 (.066)		50.92
(2) $PPV = \beta_0 + \beta_1 TPA + \beta_2 EVP + \beta_3 \lvert AIG \rvert + \mu$	.320			1.511	
		TPA	−.627 (.097)		41.75
		EPV	.450 (.065)		48.29
		|AIG|	.087 (.019)		21.80

* Standard error in parenthesis.

ancy with the Cantril Self-Anchoring scale, according to which achievement optimum is defined as a person's own perceived best possible level of achievement. In this study, achievement discrepancy with respect to four universally important welfare values—work situation, income, housing accommodations and children's education—was measured by the Self-Anchoring scale for judgments made about the present, five years in the past, and five years in the future. Our findings may be summarized as follows:

(1) *Static Relative Gratification.* As degree of relative gratification experienced in the present increases, potential for political violence shows a tendency to decrease. The relationship, however, does not appear to be of a strength warranting imputation of major causal or predictive significance to relative gratification experienced in the present. Also, as degree of relative gratification expected in the future increases, potential for political violence does not show any tendency to decrease; rather, potential for political violence appears to be unrelated to relative gratification expected in the future. Both of the above findings are consistent with those reported in other studies.

(2) *Dynamic Relative Gratification.* We tested two dynamic relative gratification hypotheses: the *J*-Curve, or Rise-and-Drop, and the Rate-of-Change.

A. *J-Curve.* Individuals were categorized by six general patterns of change in relative gratification from past to present to future: Rise-and-Drop, Decreasing, No-Change Deprivation, No-Change Gratification, Increasing, and Drop-and-Rise. There is virtually no difference between proportions of respondents in the two No-Change categories who score high on potential for political violence.[50] Individuals characterized by the Rise-and-Drop pattern of relative gratification are more likely to have a high potential for political violence than those in the No-Change Deprivation group by 36.0 and 65.0 percentage points on the Income and Children variables, respectively; but individuals characterized by the Drop-and-Rise pattern of relative gratification *similarly are more likely* to have a high potential for political violence than the No Change Gratification group by 26.0, 31.3, and 57.3 percentage points on the Income, Housing, and Children variables, respectively. And on the Income and Children variables, the proportions high on potential for political violence are similar for the Rise-and-Drop and Drop-and-Rise patterns, while on the Housing variable, the proportion high on potential for political violence clearly is *greater* for the Drop-and-Rise pattern than for the Rise-and-Drop pattern. Thus, the findings tend to support an *Absolute J*-Curve hypothesis, to the effect that individuals experiencing either a Rise-and-Drop or a Drop-and-Rise pattern of relative gratification will be more likely to show high potential for political violence than individuals experiencing a No-Change pattern of relative gratification.

B. *Rate-of-Change.* Three measures of direction and degree of shift over time in relative gratification were constructed: (1) past-to-future change scores were defined by subtracting level of gratification in the past from level of gratification expected in the future; (2) present-to-future change scores were defined by subtracting level of gratification in the present from level of gratification expected in the future; (3) past-to-future change scores were defined by subtracting level of gratification in the present from level of gratification expected in the future; (3) past-to-present change scores were constructed by subtracting level of gratification in the past from level of gratification in the present. These variables range from negative change through no change to positive change (-10 to $+10$) depending on whether, and by how much, a person perceives his level of relative gratification to be decreasing over time, constant, or increasing.

The data provide no support for the Rate-of-Change hypothesis that as degree of relative gratification increases over time, potential for political violence will tend to decrease. However, if we convert the rate-of-change scores into absolute magnitudes, the data consistently support an *Absolute* Change hypothesis that as absolute magnitude of relative gratification increases over time, potential for political violence will show a tendency to increase. Of the rate-of-change variables, the best predictor of potential for political violence is the absolute magnitude of present to future shift.

The absolute magnitude of what men think they are going to be able to get in the future minus what they have attained in the present is a variable that shows a moderate zero-order positive correlation with poten-

[50] In this respect, the Waterloo sample differs from the Cleveland sample. See Table 6 at page 198 in Bowen et al., "Deprivation, Mobility, and Orientation Toward Protest of the Urban Poor."

tial for political violence (and a higher correlation with potential for political violence than any other relative gratification variable); it also is linearly related to potential for political violence independent of degree of political trust and belief that past political violence has led to goal attainment; and it improves prediction of potential for political violence by a slight amount over and above the more powerful political trust and past efficacy of violence predictors.

Why Absolute Magnitude? We entitled this paper, "The Strange Case of . . . ," because we felt like detectives while analyzing these data. On beginning the investigation we did not expect to find the Absolute Change or *V*-Curve relationship between potential for political violence and shift in relative gratification over time. Our first clue occurred when we categorized relative gratification shift into the fourteen patterns depicted in Figure 1 and then computed the mean PPV scores for individuals grouped into each pattern, as reported in Table 3. Initially, we expected that the *V*-Curve pattern would disappear when we constructed other shift variables.

But the *V*-Curve persisted regardless of the kind of shift variable we used, and it continued to persist regardless of the control variables we introduced. At this point we were satisfied that we could explain the zero linear correlation between potential for political violence and the shift variable (labeled Long-Term Welfare Gratification) constructed in Muller's earlier report,[51] as well as the lack of linear correlation between potential for political violence and the shift variables constructed here. Moreover, our review of the relevant literature gave us reason to believe that the *V*-Curve would hold for samples other than this.[52]

It is logical to expect that persons who perceive negative change in their standard of living will be more violence-prone than persons who perceive either no change or positive change. But it is not logical to expect that persons who perceive positive change in their standard of living will be *more* violence-prone than persons who perceive no change, and will be *as* violence-prone as persons who perceive negative change. The comparatively high potential for political violence manifested by persons who perceive positive change is an example of what might be labeled the "de Tocqueville Paradox," after the French social scientist Alexis de Tocqueville, who first called attention to this phenomenon on the basis of systematic observation. De Tocqueville noted that the French Revolution occurred after two decades of steady improvement in standard of living and that those parts of France which had experienced the greatest degree of positive change also showed the greatest popular discontent.[53]

Two different explanations of the de Tocqueville Paradox have been advanced. The most familiar is the *Rising Expectations* thesis, predicated upon the assumption that as a person experiences positive change in his level of achievement, his achievement optimum also will rise, *and rise more rapidly than his attained achievement,* thus producing an increase in the amount of perceived, discrepancy between achievement optimum and achievement.[54] A second explanation, labeled *Present Value of the Past,* is predicated on the assumption that, since a person's level of achievement in the present is based in part on past costs, the degree to which past costs are perceived as having been intolerable will vary proportionately with the magnitude of perceived positive change over time, resulting in the actual devaluation of utility of present achievement by an amount proportionate to the magnitude of positive change.[55] Also, we shall advance as a third alternative a *More to Lose* thesis, predicated upon the assumption that, since a person who perceives positive change has more and more to lose (until such positive change becomes stabilized over a period of time), positive change will produce a readiness to ensure that such change is maintained, by acts of dissent against the state if necessary, among persons who believe that such change could be threatened.

1. *Rising Expectations.* According to this line or reasoning, the achievement optimum of those individuals who perceive increasing relative gratification tends to rise at a faster rate than level of actual achievement.[56] For such in-

[51] See Table 4 in Muller, "A Test of a Partial Theory of Potential for Political Violence," p. 938.

[52] See Bowen et al., "Deprivation, Mobility, and Orientation Toward Protest of the Urban Poor."

[53] Alexis de Tocqueville, *The Old Regime and the French Revolution* (New York: Doubleday, 1955). The paradox observed by de Tocqueville is discussed in Charles Wolf, Jr., "The Present Value of the Past," mimeo., The Rand Corporation, Santa Monica, California, 1969. Wolf cites the work of many scholars who have elaborated upon the de Tocqueville Paradox, but notes that "Although they rarely ascribe it to 'irrationality,' . . . they usually are quite unclear . . . about a precise mechanism to account for the paradox" (p. 13).

[54] See Geschwender, "Social Structure and the Negro Revolt: an Examination of Some Hypotheses."

[55] See Wolf, "The Present Value of the Past."

[56] This explanation is offered by Bowen et al., "Deprivation, Mobility and Orientation to Protest of the Urban Poor," to account for their Self-Anchoring scale findings in the Cleveland study.

dividuals, the Self-Anchoring scale would not capture this increase in achievement optimum relative to actual achievement, since it does not explicitly measure shift over time in achievement optimum. Thus, since actual achievement is rising, the Self-Anchoring scale scores would show a decrease in the gap between achievement optimum and achievement; whereas, if variation in achievement optimum were also taken into account, and if achievement optimum were rising at a faster rate than actual achievement, what shows up as a positive shift on the Self-Anchoring scale might actually be a negative shift—i.e., an actual *increase* in discrepancy—on a scale which explicitly took variation in achievement optimum into account.

The problem with this thesis, for these data, is that the top of a Self-Anchoring scale is defined by a person's own perception of his achievement optimum (defined as "best possible"). And it seems warranted to expect, say, that if an individual's achievement optimum for the future is higher than his achievement optimum in the present, he will simply take this into account when estimating degree of future discrepancy on the Self-Anchoring ladder. Furthermore, since the individual is asked to estimate his past, present, and future position on the Self-Anchoring scale with respect to his conception of his "best possible" level of achievement at the time of the interview, it seems plausible that most individuals might place themselves on the ladder with respect to a relatively constant achievement optimum. No experimental evidence, however, is available on these points.

2. *Present Value of the Past.* Charles Wolf has proposed an economic model in which valuation of the past is an important term in a person's utility function. A key premise is that the aggregate value of prior achievement levels will be mediated through a "backward-looking discount rate" or *decay rate.* Further, a decrease or an increase in this decay rate may respectively increase or decrease the effect of prior achievement levels on a person's utility function. If prior achievement levels represent costs, e.g., perceived prior inequities or discrimination, and if the decay rate decreases, then the value (disutility) of past costs may become a heavily weighted argument in a person's utility function.

Wolf discusses a utility function of the form

$$U_t = U(Y_t, \tilde{V}_t),$$

where Y_t is present achievement and $\tilde{V}_t$ is the present value of a set of prior achievement levels which may be either costs, if $\partial U \div \partial V_t < 0$, or benefits, if $\partial U \div \partial V_t > 0$. The $\tilde{V}_t$ term is defined as:

$$\tilde{V}_t = \sum_{\tau=t-1}^{t-m} (1 - r^*)^{\tau - t} V_\tau,$$

where the r^* term refers to the decay rate and the V_τ term refers to past achievement levels over a relevant time span $t-1$ to $t-m$. Now if the V_τ values are costs, raising Y may lower r^* and thus increase $\tilde{V}_t$. Consequently, raising Y may have offsetting effects in the utility function U_t, since raising Y raises Y_t but also lowers $\tilde{V}_t$. Depending on the marginal rate of substitution $(\partial U \div \partial V_t) \div (\partial U \div \partial Y_t)$, U_t may actually fall in proportion to the amount of increase in Y. Thus, an individual who sees himself as doing better in the present may, nevertheless, lower his present utility as a result of a heightened sense of *past* injustice. Analogously, an individual who sees himself as better off in the future may, nevertheless, lower his present utility as a result of a heightened sense of *present* injustice.

3. *More to Lose.* As an alternative to the Rising Expectations and Present Value of the Past explanations, we may postulate that perception of increasing relative gratification will produce a greater readiness for political violence than perception of no change because the person who sees himself as doing better now or in the future also will desire to insure that such increased satisfaction actually is maintained or attained. And if a person believes that his gains could turn out to be ephemeral, then the desire to insure that one gets what one expects, by those who expect to have more and more to lose, will be as much an impetus to political violence as will dissatisfaction generated by perception of decreasing relative gratification on the part of those who expect to have less and less to lose. Also, as positive shift in relative gratification increases, potential for political violence might show a tendency to increase, because the greater the positive change the more desirable insuring such change becomes, if necessary by dissent behavior that constitutes progressively greater challenge to the state.

Of course, to test the More to Lose thesis, one must devise a measure of the degree to which a person believes that his present gains or future expectation of gains reflect perception of permanent or stabilized change. Such a measure was not included in the present study. But we may conjecture that, if belief in the permanence of change were taken into account, among those who perceived positive change but were not strongly convinced of the permanence

of such change, and among those who perceived negative change and were strongly convinced of the permanence of such change, the relationships between absolute magnitude of change and potential for political violence would be even stronger than they were observed to be in this study.

Clearly, future research, in conjunction with further tests of the *V*-Curve hypothesis, must explicitly investigate the exact nature of the causal mechanism—be it Rising Expectations, Present Value of the Past, More to Lose, or something else—responsible for the *V*-Curve. Also, the findings reported here call for further testing of the relationships between potential for political violence and these Achievement Discrepancy constructs, as well as the other variants, at the micro-level. Furthermore, the Absolute Change relationship seems to have the following public policy implications. If the state is interested only in reducing the level of potential for political violence among its members, one way is to try to ensure that people do not come to expect, at any given point in time, very marked change in their standard of living, either up *or* down.

However, if the state is interested in pursuing policies which improve living conditions, which lead expectations about improvement in standard of living to increase substantially among some of its members, it must expect, and be ready to tolerate, a certain increase in potential for political violence.