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Attributions of poverty and affluence: an information processing analysis.

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ATTRIBUTIONS OF POVERTY AND AFFLUENCE:
AN INFORMATION PROCESSING ANALYSIS

A Thesis - for Master's Degree Presented

By

Robert L. Miller

Submitted to the Graduate School of the University of Massachusetts in partial fulfillment of the requirements for the degree of

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ATTRIBUTIONS OF POVERTY AND AFFLUENCE:
AN INFORMATION PROCESSING ANALYSIS

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I would like to express my appreciation to the members of my committee, Professors Alice Hasty, Icek Ajzen and Sonia Wright. These individuals offered extremely helpful suggestions and criticisms throughout this project. Alice Hasty, committee chairperson, deserves special thanks for her insightful and significant contributions to this research. She was always generous with her time and eager to offer assistance.
Poverty in America has been the focus of considerable public and scientific attention since the social awareness boom of the tumultuous sixties. Sociologists and anthropologists have addressed at least two important sets of questions regarding poverty. First, what are the actual causes of poverty, and what types of ameliorative social policies are best? Second, what are American's interpretations of poverty determinants, and what types of ameliorative social policies do people endorse? A third set of questions that remains relatively unexplored concern the processes by which people develop interpretations of poverty. Do people employ sophisticated information-processing strategies in order to make causal judgments of poverty? And, do general beliefs about causality affect people's processing of economic information about a social group? The present study attempts to answer these questions regarding the processes involved in the development of causal judgments about group poverty and affluence.

While attribution research seems relevant to understanding interpretations of poverty and affluence, social psychologists have remained quiet about this important social issue. Therefore, in the present study, attributions are examined to determine whether the kind of logical causal analysis useful in explaining various other events (e.g., Eagly & Chaiken, 1974; Kelley, 1971; McArthur, 1972) is applicable to this complex social issue. Do people determine causality by examining the covariation over time between a potential cause and economic effect? Are people's
prior beliefs about control over government events important
determinants of their causal explanations of specific economic
outcomes? These are some of the questions that will be
addressed below.

**Ideologies About Poverty**

What ideologies do people hold concerning poverty? One
ideology that stresses internal causes regards the poor as
genetically inferior. According to this position, poverty is
ascribed primarily to lack of innate intelligence. Alternatively,
a more common internal view is the Protestant "work ethic",
which suggests that individual effort determines the economic
rewards one receives from society. Adherents typically attribute
poverty to laziness which is inherent in the impoverished indivi-
dual. Frequently, these two views are combined, and the poor
are considered both genetically inferior and innately lazy.

A somewhat more charitable ideology emphasizes internal
causes that are of past environmental origin (e.g., slum life),
rather than an intrinsic defect within the individual. This
view has been labeled "blaming the victim" (Ryan, 1966). For
example, people sometimes believe that group characteristics
and value patterns are transmitted over generations along
family lines. This has been termed a subcultural view by
anthropologists who have investigated the actual causes of
poverty (Lewis, 1966). According to his position, current
poverty is imputed to sources within the person, even though
the condition was derived from the past environment. Current
societal forces, such as inequity in the distribution of power and resources, are largely ignored. As a result, adherents endorse social programs aimed at changing the victim (e.g., preparing the child better for school), rather than changing the societal structure (e.g., preparing the school better for the child).

In contrast to these internal ideologies, some views stress structural problems, such as discrimination and lack of economic opportunities. Sociologists studying actual poverty determinants have labeled this a "situational" view (Rossi & Blum, 1968). Since poverty is ascribed to circumstances beyond individual control, ameliorative social policies are usually seen as best geared toward structural changes in society.

Generally, then, "genetic inferiority", "blaming the victim", and "work ethic" ideologies may protect society from current blame, while a "situational" view serves to absolve the individual who is poor.

Considerable evidence suggests that people often develop self-serving ideologies concerning the genesis of poverty, though the mechanisms of ideology development have not been delineated. Self-serving ideologies have been documented by the finding that Americans of different economic levels often invoke different explanations of poverty. The particular interpretation given by the person usually reflects most favorably on that individual. Thus, nonpoor Americans tend to attribute poverty to individual failing (i.e., lack of
effort) rather than factors beyond individual control, such as the political and economic system (Ryan, 1971). Further, Schlitz (1970) found that forty-two percent of all Americans ascribed poverty exclusively to lack of effort, while only nineteen percent cited external factors as sole causes. A self-serving pattern, in which effort attributions became stronger with increased income, was demonstrated.

Empirical research indicates that socioeconomic factors which may not be related to self-serving motives are also important determinants of economic views. Three demographic characteristics -- age, education, and occupation -- have been found to be directly associated with economic beliefs. In this regard, Alston and Dean (1972) asked white survey respondents to choose either lack of effort or circumstances beyond individual control as poverty determinants. Younger people chose effort over uncontrollable circumstances more often than did older people. The authors speculated that this tendency might have resulted from older people's economic experiences during the depression. That is, those over age fifty might have remembered when forces beyond individual control caused widespread unemployment. Alston and Dean also found that education was positively associated with a tendency to choose effort over external circumstances.

Results on the occupational dimension are somewhat enigmatic. Not only were responses of skilled and blue collar workers more external as might be expected, but also
unexpectedly were those of professional workers, who are high in both education and income. Further, internal attributions were most frequently ascribed by lower status white collar workers and by farmers. This latter finding may be somewhat unexpected since these groups are relatively low on the economic ladder.

In general, then, attributions of economic outcomes follow a self-serving pattern in which the nonpoor tend to ascribe poverty to individual failing, while the poor often invoke external explanations. However, some anomalous findings accrue, and indicate that certain socioeconomic variables besides income level must be considered in order to adequately understand the determinants of economic ideologies.

**Processes in the Development of Self-Serving Ideologies**

What are the processes by which nonpoor and poor Americans develop different ideologies about poverty? At least two possibilities have been proposed. One line of research argues that individuals differ in terms of the processes by which they arrive at judgments about poverty. This view implies that, given identical information, poor and nonpoor will arrive at different conclusions that reflect their motivational biases. A second perspective suggests that individuals systematically process information in similar ways, but that the information available to people in different social classes may vary. This postulation suggests that alternative interpretations follow from different information.
Social psychological theory concerning stereotypes of social groups may be useful for elucidating how economic ideologies develop. Stereotypes are typically defined as being factually incorrect and produced through illogical reasoning (Lippman, 1922), or more vaguely as incorrect generalizations (Katz & Braly, 1933). These definitions indicate that it is not clear to researchers investigating stereotypes whether the process itself is faulty, or whether the informational basis for the judgment is inaccurate. While some researchers state that persons who use stereotypes do not employ objectively rational standards (Brigham, 1971), the explicit reason for this lack of objectivity has not been delineated.

That individuals make errors in their interpretations seems well documented (Abelson, 1976; Chapman & Chapman, 1969, 1976; Kahneman & Tversky, 1971; Peterson & Beach, 1967). However, there is relatively little empirical support for the proposition that information processing is systematically influenced by self-serving motivations (Miller & Ross, 1975). For example, self-serving patterns have not obtained in attributions of success or failure on anagrams laboratory achievement tasks (Feather & Simon, 1971). Yet, it may be true that these laboratory situations have typically not engaged strong human motives. Perhaps events linked to becoming poor have strong emotional and motivational implications. If that is the case, motivational biases might be important
in economic contexts.

In contrast to motivational interpretations, Kelley's (1971, 1973) theory of causal attributions suggests that varying interpretations probably follow from differential exposure to information. This perspective suggests that individuals process information in a basically rational manner that is independent of needs or motives which could systematically bias explanations.

According to this model, observers employ a three-dimensional classification in order to examine the covariation between potential causes and effects. This covariation principle posits that an attribution of a particular effect will be made to either an entity (stimulus), person (perceiver) or situation (time), or some combination of the three. The attribution will be made on the basis of consistency over time or occasions, consensus across persons, and distinctiveness to a particular entity. For example, an effect that occurs across time or situations (high consistency), and in response to a particular actor (low consensus) and a wide range of stimuli (low distinctiveness), will tend to be ascribed to the person. Thus, the covariation principle suggests that perceivers examine multiple possible causes of events by conducting a subjective analysis of variance on information arranged in an Entity X Persons X Situations matrix.

In conceptualizing multiple possible causes, Kelley introduced another useful causal distinction. Perceivers
sometimes engage in a systematic but simpler analysis in terms of the plausibility of potential causes. Two types of causes --facilitative and inhibitory-- may obtain in the person, entity, situation or any combination of the three. While an inhibitory cause must be overcome in order to achieve a particular outcome, a facilitative cause furthers that end. Kelley's Augmentation Principle suggests an alternative to a complex analysis of variance in causal evaluation: "If for a given effect, both a plausible inhibitory cause and a plausible facilitative cause are present, the role of the facilitative cause in producing the effect will be judged greater than if it alone were present as a plausible cause for the effect" (Kelley, 1972, p.12).

From Kelley's perspective, then, it seems reasonable to argue that lay attributors perform an analysis similar to that conducted by scientists in identifying cause and effect relations. Deploying Kelley's model in economic contexts, the present paper suggests that alternative interpretations may derive from different information. Why, then, in developing self-serving ideologies, might poor and nonpoor be exposed to different information about economic situations? One view proposes that people selectively expose themselves to self-enhancing or belief-confirming information (Freedman & Sears, 1971). Festinger (1957) proposed that people who hold conflicting beliefs experience dissonance and a motivation to eliminate the unpleasant state. One way to reduce dissonance (or avoid
it in the future) is to seek information that is supportive of one's belief structure. Poor people might seek information that suggests poverty should be ascribed to societal factors. In contrast, the rich might search for information that credits personal ability or initiative for economic success.

An alternative possibility is that the poor and rich develop dissimilar views due to exposure that is representative of their own experiences, rather than selective exposure. That is, the rich and poor may typically examine the covariation between effort and economic outcome, and logically arrive at different attributions. The poor, who are aware of their own considerable striving toward economic success, may perceive that the lack of correspondence between effort and outcome results from a malevolent environment. In contrast, the rich, who may be unaware of effort expended by the poor, could assume that lack of effort caused poverty. The rich may assume that effort typically results in economic gain, since that is what appears to have happened to them.

Exposure that is representative of people's experiences, then, could yield divergent explanations by the poor and rich. This analysis suggests that, through media or educational experiences, high status individuals may become aware of effort deployed by the poor, and therefore embrace external explanations. This interpretation might explain the finding that high status professionals invoke external explanations for poverty.
**Ideological Influences on Processing**

How might prior ideologies and beliefs affect the processing of economic information? Kelley (1973) noted that, when a complete analysis is not undertaken, people may utilize prior information for inferences. These "assumed patterns of data in a complete Analysis of Variance framework" (Kelley, 1973, p. 152) were labeled "schemata". Kelley also proposed that the process implied by his Analysis of Variance model is appropriate only when the person conducts a full scale analysis. Therefore, the process may not occur in many everyday situations.

With regard to poverty attributions, schemata might consist of ideologies concerning personal control. These prior tendencies could be measured by Rotter's (1966) Internal-External (I-E) Scale, which taps individual differences in the generalized belief that a person can control his/her own destiny. Genetic, work ethic, and victim-blaming ideologies all seem consistent with a belief in internal control. Conversely, a situational ideology seems congruent with an external orientation.

The schemata notion seems consistent with Jones and Cook's (1975) social judgment theory analysis of poverty attributions and related policy preferences. These authors investigated the effects of racial attitudes on causal explanations for black/white socioeconomic disparity. Further, they asked respondents to rate the relative effectiveness of self-improvement and societal-change social policies. Results indicated that white subjects' negative attitudes toward blacks were associated with internal causal explanations and preferences
for self-improvement policies. Jones and Cook argued that racial attitudes functioned as anchors in affecting interpretations of facts. In this manner, prior attitudes related to an ambiguous event suggest an interpretation that is congruent with the preexisting belief structure. The social judgment theory analysis goes one step beyond causal explanations to the judged effectiveness of remedial social policies. The formulation suggests that ideological beliefs can affect evaluations of programs aimed at alleviating poverty. Generally, externals might prefer societal-change ameliorative policies, while internals might embrace self-improvement policies. In terms of Kelley's theory, prior racial attitudes (or beliefs about personal control) may function as schemata in affecting interpretations of ambiguous situations.

When do attributors rely on existing schemata? One problem with the Analysis of Variance model is that it does not specify when an individual suspends schemata in order to gather more information and make a full scale analysis. Kelley (1973) suggested that a person may not deem many everyday situations sufficiently important to warrant time-consuming gathering, retrieving, and processing of information. The person might then utilize schemata when the available data are incomplete.

A second possibility is that self-serving motivations could dictate whether individuals will seek more information or utilize existing schemata. That is, people may seek further
data only when their needs or motives are not satisfied. But in some (or perhaps most) cases, such "selective exposure" might actually reflect people's "rational" processing. One could argue that ideologies indicate what type of information is relevant to the problem at hand. Internals may feel that information about environmental changes is an inadequate basis for judgments, and that individual difference information is necessary. In the laboratory, they might resort to ideological notions as schemata in their analysis. However, if given the chance, they might seek exposure to individual difference information. In contrast, externals may feel that information about the environment is sufficient. Thus, externals may utilize environmental information more strongly than internals.

In sum, the present study examines the processes by which people develop interpretations of poverty and affluence. It is argued that, in general, people systematically examine the covariation between potential causes and economic effects in order to ascribe causality. Further, prior beliefs that persons hold concerning control may be important determinants of attributions in ambiguous cases, or when individuals do not conduct a full scale analysis.

**Design**

The preceding analysis indicates that laboratory subjects should be responsive to information concerning the covariation of cause and effect in economic contexts. Two potential causes emerge from the above discussion. One cause concerns
changes in environmental resources and opportunities over generations, while another might be internal characteristics, such as abilities and personal initiative, of a social group.

In the present study, subjects were given information about the Raetoromanen, an obscure social group living in western Austria. One group of subjects was told that the group is currently poor, while other subjects were told that they are presently affluent. Both groups were given information about changes in the group's income and opportunities over the past fifty years. All subjects were told that opportunities have either improved or declined. Further, when the group is presently poor, incomes were described as having either declined or remained constant. But when Raetoromanen are currently rich, the economic situation was presented as either having improved or remained constant over time. Thus, combinations of these variables provided a total of eight descriptions (See Table 1).

In addition, two control conditions that received no opportunity or income change information were included to provide baseline data. These conditions were a poverty and affluence control that were only told the present economic state of the group.

The covariation principle suggests that poverty or affluence will be attributed to environmental changes when there is a covariation of income and opportunity (e.g., both improve or both decline). The augmentation principle indicates
that negative covariation should generate strong internal ascriptions. This result might occur when income improves while opportunity declines. In such a case, a facilitative internal attribute should be seen as effective despite opposing inhibitory opportunities.

Following the logic of the augmentation principle, when income remains constant (and opportunities either improve or decline), internal attributions should result from the noncovariation. A facilitative internal attribute should be viewed effective in holding incomes constant despite declining inhibitory opportunities. However, this internal attribute would be judged stronger when incomes actually improved in the face of declining inhibitory opportunities (i.e., negative covariation).

The present study, then, proposes that subjects' causal inferences are an outcome or consequence of a systematic cause and effect analysis. Specifically, it is hypothesized that stronger external (and weaker internal) causal attributions will obtain when economic outcome covaries positively with opportunity compared with stable outcome conditions compared with the condition in which economic outcome covaries negatively with opportunity. As a secondary focus, this study examines respondents' social policy preferences. In this regard, it is hypothesized that a stronger preference for societal-change (vs. individual-change) ameliorative social policies will be demonstrated by positive covariation compared with stable
outcome compared with negative covariation subjects.

Regarding treatment comparisons with controls, stronger internal (and weaker external) attributions are expected for control subjects compared with positive covariation subjects. In contrast, weaker internal (and stronger external) attributions are predicted for control versus stable outcome or negative covariation subjects. Further, control (vs. positive covariation) subjects should more strongly endorse societal-change policies, while endorsement of these policies should be weaker for control compared with stable outcome and negative covariation subjects.
Method

Design

Two experimental designs comprise this research. Subjects in the first design were told that Raetoromanen are currently affluent, while those in the second design learned that the group is currently impoverished. When the group is currently affluent, a $2(\text{improved vs. declined opportunities}) \times 2(\text{improved vs. constant income})$ plus control group (no information regarding income changes or opportunity changes) between-subjects design was utilized. When Raetoromanen are currently experiencing poverty, the study employed a $2(\text{improved vs. declined opportunities}) \times 2(\text{declined vs. constant income})$ plus control group (no information regarding income changes or opportunity changes) between-subjects design.

Prior to selection of the final design, one-hundred and twenty pilot subjects provided data about a fictitious social group. All members in that group were described as being impoverished. The design was a $3(\text{improved vs. declined vs. constant opportunities}) \times 3(\text{improved vs. declined vs. constant income})$ plus control group (no opportunity change or income change information) between-subjects design. Although data trends were in expected directions, significant effects were not found. On the basis of those data, it seemed reasonable that stronger manipulations would provide a superior design. To this end, the final design described larger changes in opportunities and income over time. The improved income
condition involving the currently impoverished group was necessarily absent. That condition was replaced with an improved income description involving current affluence. Further, constant income conditions were included in both poverty and affluence designs in order to compare people's general theories of poverty and affluence.

Subjects

One-hundred fifty male and female University of Massachusetts undergraduate psychology students participated for experimental course credit during the Fall semester, 1977.

Experimental Procedure

Participants were recruited for an experiment entitled "information about a social group". Questionnaires were administered in sessions containing up to fifteen subjects. Each participant received one of ten different versions (representing the various experimental conditions) of a booklet containing the experimental materials.

All booklets began with a three paragraph description of the Haeutoromanen, an obscure ethnic group that (supposedly) constitutes three percent of the Austrian population. Within these paragraphs, customs and traditions of the group were described (see appendix 1 for complete description). The information was intentionally ambiguous and neutral with respect to causal judgments of poverty or affluence. This background information gave people facts that could add plausibility and support to theories that might result from experimental
information or prior ideologies.

Next subjects were told that surveys concerning the Raetoroman economic situation were published both fifty years ago and last year. Information describing the current income level (rich or poor) and income changes (improved, declined, or remained constant) were given.

After reading the appropriate version of the above information, subjects were given information describing opportunity changes over time. In order to facilitate comprehension, a brief summary of background information, opportunity and income changes, and the present economic situation, was provided. To further reinforce information in subjects' minds, and to ascertain whether they received information, subjects answered five multiple choice questions about income level and changes, and opportunity changes. They scored their own answers by referring to the preceding descriptions.

Subsequently, subjects rated the importance of various causal determinants of either poverty or affluence. Further, self-perceptions of control, and ratings of own income, were provided by subjects. Finally, subjects who learned that the Raetoromanen are currently poor indicated their endorsement of individual-change and societal-change ameliorative social policies.

Independent Variables

Group income level and income changes. One paragraph described the group's present income level — "distinctly above average" (affluence) or "distinctly below average" (poverty) —
and provided income change information. Incomes either improved (used in affluence conditions), declined (used in poverty conditions), or remained constant (used in both designs).

For example, in conditions in which incomes improved and the group is currently affluent, participants read the following paragraph:

The surveys demonstrated some important facts about the economic situation. Fifty years ago, most Raetoromanen were poor. In comparison with other Austrians, Raetoroman incomes were distinctly below average. Since that time, however, Raetoroman incomes have improved considerably. Now Raetoromanen are very comfortable economically. In relation to other members of Austrian society, Raetoromanen are distinctly above average.

Aside from differences in income level and income change information, the content of each version was essentially identical (see appendix 2).

**Opportunity Changes.** Subjects were told that opportunities either improved or declined over the fifty year period. For example, the passage describing improved opportunities read as follows:

The surveys and numerous government reports showed that the opportunities available to Raetoromanen have an interesting history. Over the last fifty years, opportunities have actually improved a great deal. This improvement in opportunities stemmed from increased funding coming
to the western region from government sources. In Austria, most taxes go to the federal government, which then redistributes money to the different regions for various purposes. In recent decades, the federal government substantially increased funds to the western region where Raetoromanen live. As a result, schools were able to improve teaching quality, reduce class size, and provide students better materials and physical conditions. Further, financial aid enabled many more Raetoromanen to attend the Gymnasium (high schools) and universities. There were also efforts to stimulate regional industries and tourism. Money for vocational training was also made available, and legislative efforts were directed toward eliminating any job discrimination.

The content of the description of declining opportunities was essentially identical except for the crucial information (see appendix 3).

Measuring Instruments

Causal Inferences. Respondents rated the responsibility of two types of potential causal factors of Raetoroman income. One factor concerned "ability levels or degree of personal initiative" that stems from enduring traditions or sometimes inherited causes", while the other regarded "resources or opportunities that society provides." Subjects rated each of these two types of factors by marking two separate 15-point scales, anchored by "very much responsible" and "not at all"
Trait listing. Subjects were asked to list all the traits or characteristics that might apply to the Raetoromanen, based on the information that they read. Further, respondents evaluated each trait by marking a 15-point scale anchored by "extremely good" and "extremely bad".

Ratings of specific causal determinants. Subjects indicated the importance, on 5-point scales, of the following twelve potential causal determinants of (appropriately) poverty or affluence: education, job availability, intelligence and ability, effort, neighborhood conditions, discrimination, luck, ghettoization and physical isolation, alienation, aspirations, health problems, and political power.

Own income rating. Subjects were asked to characterize their own economic situation over the course of their lifetime. The scale contained seven points anchored by "rich" and "poor".

Locus of control scale. Respondents completed a 9-item Likert scale that measures the system dimension of the Internal-External personality variable. This dimension was extracted from Gurin's (1975) factor analysis of Rotter's (1966) original I-E scale. In contrast to a personal dimension, the system factor concerns governmental and societal events. Subjects responses to the nine item locus of control scale were summed to provide one overall measure. The internal consistency of the scale proved high, as tested by Coefficient α (Cronback, 19 ).
Policy preferences. Subjects receiving information that the group is currently poor gave additional data. Endorsement of two types of social policies was measured on two 15-point scales which ranged from "not at all endorse" to "very much endorse", with midpoint labeled "somewhat endorse". The description of the two policies read as follows:

An individual-change policy would stress changes in the behavior of the individual who is poor as the best way to eliminate poverty. Those in favor of this view might endorse job training programs or individual counseling to change work-related values, attitudes and behavior.

A societal-change policy might suggest that legislation be enacted to alter economic conditions. Such legislation might involve insuring an adequate job and income to the poor by hiring quotas, job provision programs or guaranteed annual income programs.

Finally, relative endorsement of the two policies was assessed. Subjects indicated the percentage of the total available money that they would advise be spent on individual-change and societal-change policies.
Results

The analyses employed two separate $2 \times 2$ factorial designs, each including the external control or comparison group. Hypotheses concerning affluence condition subjects were explored by an opportunity (improved vs. declined) X income (improved vs. constant) analysis of variance and appropriate contrasts. All analyses were conducted with the (no information) control condition included in the error term. In a similar manner, hypotheses concerning poverty condition subjects were explored by an opportunity (improved vs. declined) X income (declined vs. constant) analysis of variance and appropriate contrasts, with control subjects again included in the error term. Further, planned contrasts across affluence and poverty designs were conducted where appropriate. In these contrasts, all experimental and control subjects from both designs were included in the error term.

Causal inferences

In conditions in which the group was described as affluent, analysis of subjects' rating of the responsibility of internal causes yielded an Income X Opportunity interaction, $F(1, 59) = 7.47$, $p < .01$. As predicted, planned comparisons revealed that weaker internal ascriptions were given in positive covariation compared with stable outcome conditions ($p < .01$). Further, weaker internal attributions obtained for positive compared with negative covariation subjects, as expected ($p < .01$). Contrary to
predictions, no difference obtained for combined stable outcome conditions compared with the negative covariation condition.

Dunnett's procedure showed that only the positive covariation condition differed significantly from the baseline control \((p<.01)\). Subjects in that cell gave weaker internal ascriptions than did control subjects, as expected.

Analysis of affluence subjects' rating of the effect of external causes on the current economic state revealed a significant opportunity main effect, \(F(1,59)=31.64, p=.000\). External factors were perceived to be more important by opportunity improved than by opportunity declined subjects. Not only did the opportunity effect hold as predicted within improved income conditions, Simple \(F(4,72)=8.68, p<.01\), but also unexpectedly within stable outcome conditions \((p<.01)\). This latter difference suggests that contrasts in which stable outcome cells are combined would not be appropriate.

Regarding treatment comparisons with the control, Dunnett's test revealed that the negative covariation condition showed significantly weaker external ascriptions than the control, as predicted \((p<.01)\). In addition, the stable outcome cell involving declined opportunity demonstrated as expected marginally weaker external attributions than did the control \((p=.07)\). Contrary to predictions, stable outcome subjects receiving improved opportunity information gave significantly stronger external attributions than did control subjects.
Finally, in contrast to results for the internal variable, the positive covariation condition did not differ from the control.

For subjects receiving information that the group is currently poor, analysis of variance revealed a significant opportunity main effect for the internal dependent measure, $F(1,59)=14.45, p=.001$. This effect indicated that internal causes of poverty were judged more important when opportunity improved than when opportunity declined. Opportunity simple effects held as expected within the conditions in which income declined, Simple $F(4,72)=8.45, p<.01$, but also contrary to predictions within stable outcome conditions ($p=.001$). Finally, Dunnett's test indicated that the two conditions in which opportunity improved each differed significantly from the control ($p=.002$). Improved opportunity subjects gave stronger internal attributions than did control subjects.

Poverty condition subjects' rating of the causal responsibility of external factors yielded a significant opportunity main effect, and indicated that external forces were judged more important when opportunity declined than when opportunity improved ($p=.000$). Once again, expected opportunity simple effects obtained within income declined conditions, simple $F(4,70)=7.92, p=.000$, while unanticipated opportunity effects were present within stable outcome conditions ($p=.000$). Finally, Dunnett's procedure indicated that conditions involving improved opportunity differed significantly from the control ($p's=0.01$).
weaker external attributions were given by improved opportunity compared with control subjects.

Subjects' rating of their own income over the course of their lifetime was not predictive of causal inferences or policy preferences. Therefore, that variable will not be discussed below.

Comparisons across affluence and poverty designs demonstrated numerous significant differences. Affluence control subjects judged internal factors considerably more important than did poverty control subjects (p = .001). Further, analyses across declined opportunity conditions involving stable outcome showed that affluence condition subjects gave stronger internal attributions than did their poverty condition counterparts (p < .001). However, improved opportunity conditions involving stable outcome did not differ across designs.

Analyses on the external dependent variable showed significant differences across stable outcome conditions. In stable outcome conditions in which opportunity declined, poverty condition subjects gave stronger external attributions than did affluence subjects (p < .001). In contrast, stable outcome affluence subjects receiving improved opportunity manipulations gave stronger external attributions than poverty subjects in the parallel condition (p < .001).

**Ratings of specific causal determinants**

A multivariate analysis of variance was performed on the twelve specific causal determinants, and only effects yielding
a significant multivariate $F$ are reported.

In conditions in which the group was described as being currently affluent, the opportunity main effect was significant on three variables (education, jobs, ability, $p$'s < .05), and marginal on one (aspirations, $p$ = .07). Further, an Income $\times$ Opportunity interaction was revealed by analyses of two variables (jobs, education, $p$'s < .01). The opportunity main effect indicates that internal causes (i.e., ability, aspirations) were judged more important determinants of affluence when opportunities declined than when opportunities improved. Conversely, attribution to external determinants (i.e., education, jobs) was weaker when opportunities declined than when opportunities improved. As predicted, two external variables (education, jobs) demonstrated simple opportunity effects only for improved income conditions.

Analyses of poverty conditions revealed significant opportunity main effects on four dependent measures (education, jobs, aspirations, effort, $p$'s < .01). These findings show that external factors (i.e., education, jobs) were judged more causally important in conditions in which opportunity declined compared with conditions in which opportunity improved. Further, internal factors (i.e., aspirations, effort) were judged less important in the opportunity declined compared with opportunity improved condition. For all four variables, not only did these opportunity effects hold as predicted within the conditions in which income declined ($p$ < .05), but also unexpectedly within
the stable outcome condition (p < .05).

Several planned contrasts across poverty and affluence designs indicated once more that subjects' interpretations of opportunity and income information depends on the group's current income level. In this regard, attributions for two variables (i.e., education, discrimination) were stronger for poverty condition control subjects than for affluence condition control subjects (p's < .05). Conversely, attribution for one internal factor (i.e., aspirations) was weaker for poverty compared with affluence controls (p < .05). These results indicate that subjects tend to invoke internal explanations for affluence, and external explanations for poverty. However, one anomalous finding was revealed: attribution for the luck variable was stronger for affluence control than for poverty control subjects (p < .01).

Further evidence for the above pattern is revealed by contrasts across rich and poor conditions involving declined opportunity and stable outcome. Significant differences on four dependent measures were obtained (ability, effort, isolation, aspirations, p's < .001). These findings demonstrated that internal determinants (i.e., ability, effort, aspirations) were judged more important by affluence compared with poverty subjects, while an external variable (i.e., isolation) was perceived less important by the affluence subjects than by their poverty counterparts.

Finally, contrasts across improved opportunity conditions
in which income remained stable revealed significant differences on four variables (ability, isolation, education, jobs, p's < .05). Consistent with the above findings, affluence subjects judged ability more important, and isolation less important, than did poverty subjects. In contrast to the overall pattern, affluence subjects also judged education and jobs more important than did poverty subjects.

**Policy preferences**

In conditions in which subjects received information that the group is currently poor, opportunity main effects were significant on three policy-related variables (individual-change endorsement, individual-change and societal-change percent allocation, p's < .05), and marginal on one (societal-change endorsement, p = .07). These effects indicated that individual-change social policies were more strongly endorsed when opportunity improved than when opportunity declined. Conversely, endorsement of societal-change policies was weaker when opportunity improved than when opportunity declined.

The expected simple opportunity effects achieved significance only within declined income conditions for two variables (individual-change and societal-change percent allocation, p's < .05). However, contrary to predictions, simple effects tests revealed that the opportunity effect held only within constant income conditions for one variable (individual-change percent allocation, p = .05).
Individual differences in locus of control

On the basis of the overall scores on the locus of control scale, subjects were split at the median into two approximately equal-sized groups — external (above median) and internal (below median) locus of control. The analyses below employed two separate 2 X 2 X 2 factorial designs (Opportunity X Income X Locus of Control), each including the (no information) control group.

Causal Inferences. In conditions in which subjects received information that the group is currently affluent, analyses of the internal cause variable revealed an unpredicted Income X Opportunity X Locus of control interaction, $F(1,54=8.03, p<.05$. Simple effects tests revealed that the previously reported Opportunity X Income interaction obtained only within internal locus of control conditions ($p<.01$).

Regarding affluence condition subjects' rating of the responsibility of external causes, simple effects tests revealed that the opportunity main effect held for internals under both constant and improved income conditions ($p's<.000$), as well as for externals under both levels of income ($p=.02$). Further, Dunnett's procedure revealed that only internal locus of control subjects receiving negative covariation information differed from the appropriate control ($p<.05$). As predicted, the negative covariation subjects showed weaker external ascriptions than control subjects.

In conditions in which the group was portrayed as currently
poor, the internal cause variable showed a significant Opportunity X Locus of control interaction, $F(1, 52) = 7.44$, $p < .01$. This interaction indicated that opportunity simple effects were stronger within internal locus of control conditions compared with external locus of control conditions. Dunnett's test indicated that internal as well as external locus of control subjects in the stable outcome condition involving improved opportunity gave stronger internal attributions than their respective control ($p < .01$). Further, internals receiving negative covariation information gave stronger internal attributions than did control subjects ($p < .01$).

Regarding comparisons for the internal variable across affluence and poverty designs, affluence control subjects across both levels of locus of control judged internal factors more important than did their poverty control counterparts ($p = .000$). Further, across both levels of locus of control, affluence subjects receiving declined opportunity and stable outcome information gave stronger internal attributions than their poverty counterparts.

Analysis of the external variable under poverty conditions revealed no significant main or interaction effects involving the locus of control variable. Comparisons across designs for the external variable demonstrated that poverty (vs. affluence) subjects across both levels of locus of control gave stronger external attributions in conditions in which opportunity declined and income remained stable. Further, across both
levels of locus of control, stable outcome affluence subjects receiving improved opportunity information gave stronger attributions than their poverty condition counterparts.

**Ratings of specific causal determinants.** A multivariate analysis of variance was performed on the twelve specific causal determinants, and only effects yielding a significant multivariate F are reported.

Only in conditions in which the Raetoromanen were described as currently affluent did effects involving the locus of control variable achieve significance. Locus of control main effects proved significant on two variables (ability, effort, p's < .01), and indicated that these two internal causes were judged to be more important determinants of affluence by internal compared with external locus of control subjects. Regarding the importance of jobs on the economic outcome, simple effects tests indicated that the previously reported opportunity main effect held only within internal locus of control conditions (p = .001). This effect shows that jobs were judged more important when opportunities improved than when opportunities declined.

Finally, an unexpected Income X Opportunity X Locus of control interaction obtained for the education variable. A simple effects test revealed that the previously reported Income X Opportunity interaction proved significant only within internal locus of control subjects (p < .05). That is, within internal locus of control conditions, improved
declined) opportunity subjects gave stronger attributions only under improved income conditions.
Discussion

The present study examines how individuals process cause and effect information in economic contexts. From Kelley's model of causal attributions, we derived that economic causal ascriptions would be a product of a systematic analysis of the covariation of a potential cause and the economic effect (outcome).

Subjects were told that an obscure social group is either currently affluent or impoverished. When the group is currently affluent, incomes were described as having either improved or remained constant over a fifty year period. When the group is currently impoverished, incomes either declined or remained constant over time. Further, all subjects were told that opportunities (e.g., jobs, education) either improved or declined over time.

Respondents therefore received one of three general types of information: (1) Positive covariation: Opportunity and income both declined, or both improved, over time, (2) Negative covariation: Opportunity improved while income declined, or opportunity declined while income improved, and (3) Stable outcome: Income did not change over generations, while opportunity either improved or declined.

Causal Inferences

Primary dependent measures investigated subjects' causal attributions of poverty or affluence. Two kinds of economic causes were investigated: internal, such as ability or initiative, and external, such as opportunities. Stronger external (and
weaker internal) causal attributions were expected for positive covariation compared with stable outcome compared with negative covariation conditions.

Regarding causal attributions of poverty, the results, as a whole, indicate that internal causes were judged more important when group opportunity improved as opposed to declined over time. In contrast, regarding attributions of affluence, external causes were judged more important when opportunities improved than when opportunities declined. Thus, subjects employed opportunity information in conjunction with current income level information. Income change information had no significant impact on judgments.

Why did subjects fail to employ income change information in their analyses? One possible explanation might be that they did not receive the information. However, manipulation checks documented that subjects received both opportunity change (98.5%) and income change (96%) information. Therefore, a more adequate explanation of subjects' selective utilization of information is warranted.

A better explanation for the differential use of information might be that income change information was less salient to subjects than was opportunity change information. In addition to sentences that summarized the information, the stimulus materials regarding income changes were only one sentence in length, while opportunity change materials entailed one paragraph. The shorter length of income change information may have resulted in low salience to subjects.
A third interpretation may be that subjects' information processing capacities are limited, and so they selectively utilize information in order to reduce complex judgments to simpler operations. Subjects may either be unable or not motivated to perform the relatively complex judgmental operations that are involved in an analysis of covariation between cause and effect, and may therefore adopt a simplifying strategy. One strategy might be to employ opportunity change information in conjunction with current outcome level information. This possibility that subjects used simple information processing strategies will be discussed in detail below.

Social Policy Preferences

Social policy preferences were provided only by poverty condition subjects. Stronger endorsement of societal-change (and weaker endorsement of individual-change) social policies was predicted for positive covariation compared with stable outcome compared with negative covariation subjects. Results showed that support for societal-change policies was weaker when opportunity improved than when opportunity declined. Conversely, improved opportunity subjects gave stronger support to individual-change policies than did declined opportunity subjects. Thus, only opportunity-change information in conjunction with current outcome level knowledge had an impact on policy choices.

Comparisons across Affluence and Poverty Designs

For the internal and external causal inference variables,
comparisons across parallel affluence and poverty conditions revealed several important differences. Poverty condition control subjects judged internal factors less important than external factors. This finding indicates that people hold theories that suggest that external forces are much more important determinants of poverty than are internal forces. In addition, declined opportunity subjects in poverty conditions judged internal and external causes about as important as did their respective controls. This indicates that people may assume that opportunity decline causes poverty, given no specific causal information. This assumption by subjects may reflect a "group-enhancing" pattern in which people choose the particular explanation that casts the group in the most favorable light.

Regarding affluence control judgments, internal causes were judged slightly (but nonsignificantly) more important than external causes. This result indicates that intuitive theories people hold about affluence are less clearly defined than their theories of poverty. Why might people hold clearer theories about poverty than about affluence? People may look for causes more strongly when they must explain a bad outcome (i.e., poverty), and suggest a way to produce change. Less attention may be given to ascribing causes for good outcomes (i.e., affluence) because change is not generally desired. Given the abundance of literature that analyzes poverty, and the relative scarcity of discussions about affluence, this interpretation may be reasonable.
To further investigate how interpretations of poverty and affluence may differ, comparisons across parallel opportunity declined and opportunity improved conditions were made. Regarding declined opportunity conditions, affluence subjects judged internal causes more important, and external determinants less important, than their poverty condition counterparts. These findings can be termed "group-enhancing" since the group was credited for affluence, while the environment was blamed for poverty. Regarding improved opportunity conditions, for the internal variable, no differences were found across constant income conditions, but for the external variable, the reverse of a group-enhancing effect was obtained: external causes were judged more important by affluence compared with poverty subjects.

These results, then, provide moderate support for a group-enhancing pattern of causal attributions. The strongest evidence for this pattern is shown by examining control judgments in poverty conditions. Further, there is some support for the notion that people's attributions are group-enhancing when comparing across opportunity decline and opportunity improve conditions, though some anomalous findings were noted.

Why were attributions group-enhancing? In this regard, it is interesting that subjects appear not to have employed any of the previously mentioned economic ideologies. Genetic, work ethic, and victim-blaming ideologies stress internal
causes of economic outcomes. According to these views, both poverty and affluence result from internal causes. In contrast, a situational ideology usually views outcomes to be a consequence of sociological forces. Supporters of this viewpoint embrace external explanations for both poverty and affluence. None of these ideologies, then, can explain a tendency for subjects to ascribe internal causes for affluence and external causes for poverty.

In light of the response pattern, other explanations are required. One motivational interpretation stresses that attributions are systematically affected by needs or desires. Why might observers consider group-enhancing ascriptions to be desirable? One could argue that motivations to be charitable were important. A desire to be lenient or kind might induce subjects to give the group credit for success or absolve them from blame for failure.

A different motivational interpretation might suggest that these people used their attributions in a self-protective manner. That is, since college students' economic future is frequently uncertain, attributions could protect their future self-image if poverty occurred for them. If this strategy frequently operates, we would expect the pattern to be weaker for people who feel that their economic future is certain. In such cases, affluent people should generally invoke internal economic causes while poor people embrace external explanations.
An alternative cognitive explanation can be posited. In this regard, one could argue that, on the basis of past learning, people hold certain beliefs about why groups are poor or affluent. Our subjects might have assumed that the group expended effort toward economic success. Therefore, they may have reasoned that economic failure could only accrue when success was thwarted by the environment. Either motivational or cognitive explanations, then, seem reasonable. This research does not test these alternative interpretations.

**Comparisons with control groups**

In order to examine whether differences between improved and declined opportunity conditions are accounted for primarily in terms of the impact of improved opportunity information or declined opportunity information, each experimental condition was compared with the appropriate (no information) baseline control. No significant effects were found within affluence conditions, and most variables within poverty conditions did not demonstrate significant effects. Thus, no strong conclusion regarding this issue is warranted. Nevertheless, within poverty conditions only, results for the internal and external causal inference variables showed that only conditions in which opportunity improved differed from the control. As expected, these subjects gave stronger internal (and weaker external) ascriptions of poverty than did control subjects. These results, then, indicate that improved opportunity information had primary impact on subjects judgments about poverty. In ambiguous cases,
subjects may assume that declining opportunities cause poverty. This assumption could follow cognitively from past learning, or it could reflect a motivational bias toward charity.

Individual differences

Results regarding individual differences showed that locus of control was generally a weak predictor of subjects' responses. Overall, a relatively small number of significant results were obtained. It was predicted that stronger internal (and weaker external) attributions and preference for individual-change social policies would be demonstrated by internals compared with externals. In accord with predictions, two internal causes - ability and effort - were judged more important determinants of affluence by internal compared with external locus of control subjects.

Further, several previously reported findings involving the effects of opportunity and income information either were absent or weaker within external subjects. Regarding the internal cause variable, the tendency for improved opportunity subjects to more strongly ascribe internal causes of poverty was found to be significantly stronger among internals relative to externals. In addition, only internals judged jobs more important when opportunities improved than when opportunities declined. Further, regarding internal causes of affluence, only within internal cells did improved (vs. declined) opportunity subjects give stronger attributions under improved income
conditions. Finally, the tendency for improved opportunity subjects to more strongly endorse internal poverty determinants held only for internal subjects. The above results generally run contrary to initial speculation that externals might utilize environmental information to a greater degree than internals.

Why did internals employ opportunity and income information more strongly than externals? There is some evidence that internals and externals use different cognitive strategies to gather and process information. In a recent review of the I-E literature, Strickland (1977) found that internals take more time to deliberate about decisions in difficult, skill-demanding, or intellectual tasks. Further, these people are more likely than externals to recall salient experimental information (Seeman, 1963; Seeman & Evans, 1962). Strickland concluded that, in general, internals depend more heavily on their own abilities and interpretations of demands, and focus more on the relevant stimulus cues of a task. With regard to the present findings, it seems reasonable to argue that our internals focused more heavily on the given information, and took more time to deliberate about the causal judgments and policy decision that they were asked to make. This interpretation would explain the stronger effects among internals.

**Own income measure**

Ratings of subjects' own income proved ineffective as a predictor of responses. Given the survey evidence mentioned
earlier regarding rich/poor differences in causal explanations, this finding is unexpected. One speculative explanation is that the "rich" and "poor" groups of subjects did not differ much in actual income, since they come from relatively homogeneous backgrounds.

**General discussion**

The present study provides moderate support for hypotheses that subjects causal attributions and policy preferences would result from a systematic analysis of the covariation of a potential cause and the economic effect. Subjects performed a cause and effect analysis at a single time point by examining a potential cause (opportunity changes) and the current income level, without regard to covariation over time. It may be that all information was salient, and that subjects performed a somewhat simpler analysis than specified by our framework. If this is true, Kelley's model, though somewhat useful, may be incomplete in specifying precisely how individuals construct causal explanations in economic contexts.

How, then, might subjects have ascribed causes of these economic events? The view that people employ complex information processing strategies in prediction and attribution of events has been challenged somewhat by recent theory and research. There is evidence that individuals sometimes rely on general principles or intuitive heuristics that reduce complex judgmental tasks to simpler operations (e.g., Kahneman & Tversky, 1971; Ajzen, 1977). In general, these judgmental strategies
are quite useful, but they sometimes yield systematic errors. For example, an availability heuristic may operate when people evaluate the frequency of events by the ease with which relevant instances come to mind. While availability usually is correlated with frequency, sometimes a few salient instances will lead an attributor to systematically overestimate the frequency of a particular event.

Although research has uncovered only a small number of simple strategies, it seems reasonable that they could operate in other ways. One heuristic strategy that might have operated would be to examine the consistency among beliefs about current income level and current opportunities, at a single point in time. Most consistency theorists assert that consistency is pleasant and that people strive toward that state. Festinger (1955) provided a useful definition of psychological consistency. In this regard, when cognitions are relevant to each other, one cognition implies something about the other. The cognitions may exist in either a consistent or inconsistent state. While psychological consistency exists when one element implies the other, inconsistency is experienced when one element implies the opposite of the other.

In the present experiment, one belief concerned current outcome level - the group was believed to be either affluent or impoverished. A second belief concerned opportunities. Subjects may have believed either that group opportunities had improved or declined. Perhaps a simpler belief that
current opportunities were either good or bad was more useful for examining belief consistency. Since subjects were given information regarding one potential cause (i.e., opportunity change), this information was probably particularly salient to subjects at the time of their causal decision. In the real world, subjects might not utilize this information, but its salience in the lab probably promotes its use.

In general, the beliefs "currently impoverished" and "declined opportunities" may be consistent. The belief that opportunity declined may imply that the group should be poor, presumably because there is a causal link. This latter notion is supported by the finding that, in poverty conditions, control causal judgments paralleled those of declined opportunity subjects.

When the group is affluent, however, "declined opportunities" may imply the opposite of "currently affluent". Therefore, inconsistency should result. To resolve this inconsistency, a person should seek other explanations. Thus, inconsistency could be resolved by concluding that internal causes are responsible for affluence.

A simplifying strategy that relies on judgments of consistency has been termed a consistency heuristic (Ajzen, 1977). This heuristic would usually be quite useful and yield results that parallel those obtained by examining the covariation over time of cause and effect. Thus, opportunities would typically covary over time with income, and yield cognitions that are
psychologically consistent at the present time point. That is, "currently impoverished" and "declined opportunities" are psychologically consistent beliefs and would typically result if one performed an analysis specified by the covariation principle. However, when incomes remain constant over time, a covariation analysis and consistency analysis would yield divergent results. If subjects rely on the consistency heuristic, systematic errors would occur. The present study demonstrates these systematic errors that result from utilization of a consistency heuristic when incomes remain constant over generations.

The preceding analysis suggests that there may be individual differences in assessments of consistency among particular beliefs. Work ethic adherents who believe that poverty derives primarily from internal forces might feel that information about opportunities implies very little about current income level (i.e., the beliefs are not relevant). If so, these people might not utilize opportunity information in their analyses. However, the locus of control scale that was employed to tap individual differences in general beliefs about causation, does not support this notion. Perhaps another measure more specific to economic contexts might yield differences, but there are no supportive data in this regard.

An alternative type of simplifying strategy might have operated. Perhaps respondents were "lazy" processors who were not strongly motivated to utilize the several bits of information.
The lazy processing explanation differs from the consistency heuristic. While a change in motivation should largely eliminate laziness, the heuristic interpretation suggests that people will usually make errors, regardless of motivation level, because of an inability to deal with complexity. Thus, biases resulting from a heuristic are primarily cognitive, while lazy processing is basically a motivational problem. Future research might test these competing consistency heuristic and lazy processing explanations by manipulating subjects' motivation to perform well. Motivation level should have an impact mainly on lazy processing.

But why would subjects consistently utilize outcome level and opportunity change information, but not outcome change information? There may be a hierarchy of information importance that determines the order in which people utilize the various types of information. Lazy processes, or those who use a consistency heuristic, may fail to employ information that is relatively low in the hierarchy. In this study, the dependent measures tap attributions of the current outcome level, and so subjects must use that information in order to respond to questions. Thus, current outcome level information should be highest in the hierarchy.

In order to perform a cause and effect analysis, subjects would need information regarding a potential cause of the economic effect, and so that information might logically be used second. The most likely hierarchy of information
importance, then, would be, from highest to lowest: outcome level, opportunity change, and outcome change.

A few words are in order concerning interpretation of the results. As previously mentioned, several explanations are plausible. Post hoc interpretations that certain information was not salient, or that subjects used a consistency heuristic or lazy processing, are necessarily speculative. Therefore, future research might assess directly subjects' beliefs about information consistency or information salience in economic contexts such as those encountered by our subjects. Further, research might use self-reports to explore the processes by which people analyze information.

In addition, it is important to consider that the present study attempts to test a complicated information processing model as well as increase our understanding of a complex real world issue. In such an attempt, there is a problem of striking an optimal balance between internal and external validity in order to do justice to both the model and the social issue. This study may have emphasized internal validity at the expense of external validity. External validity may have been limited because some of the information provided to subjects was perceived to be ecologically nonrepresentative of the real world. For example, subjects might have perceived that incomes of real world groups (e.g., blacks) do not remain constant when opportunities improve or decline. Constant income conditions, then, may have been ecologically nonrepresentative of subjects' experiences. As a
result, subjects may have disregarded this information.

To address the issue of external validity, this study originally included a design to assess people's views of poverty of real world groups. Unfortunately, that design was eliminated due to time and resource limitations. Therefore, future research might investigate people's views of poverty and affluence of real world groups.
REFERENCES


TABLE 1

EXPERIMENTAL DESIGNS

<table>
<thead>
<tr>
<th>Opportunity Change</th>
<th>Income Change Constant</th>
<th>Income Change Improve</th>
<th>Income Change Declined</th>
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<td>STABLE OUTCOME</td>
<td>POSITIVE COVARIATION</td>
<td>NEGATIVE COVARIATION</td>
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<td></td>
<td>Income remains constant over generations. N=15</td>
<td>Income and opportunity change in same direction. N=15</td>
<td>Income and opportunity change in opposite direction. N=15</td>
</tr>
<tr>
<td>Declined</td>
<td>STABLE OUTCOME</td>
<td>NEGATIVE COVARIATION</td>
<td>POSITIVE COVARIATION</td>
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<td></td>
<td>Income remains constant over generations. N=15</td>
<td>Income and opportunity change in opposite direction. N=15</td>
<td>Income and opportunity change in same direction. N=15</td>
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</table>

NOTE: TWO CONTROL CONDITIONS RECEIVED NO INFORMATION REGARDING OPPORTUNITY CHANGE OR INCOME CHANGE (AFFLUENT CONTROL (N=15) AND POVERTY CONTROL (N=15)).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Opportunity Improved</th>
<th>Opportunity Declined</th>
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<td>Overall Mean</td>
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<td>Internal Causes</td>
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<td>Jobs</td>
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<td>Ability</td>
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<td>Effort</td>
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</tr>
<tr>
<td>Aspiration</td>
<td>3.75</td>
<td>3.93</td>
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</table>

* Higher numbers for the education and jobs variable indicate stronger support for external causes, while lower numbers for ability, effort and aspiration variables indicate stronger attribution and external causes.
### TABLE 3

**PRESENTLY IMPoverISHED**

Mean responses for main causal inferences and specific causal determinants yielding significant multivariate F as a function of income change and opportunity change.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Opportunity Improved</th>
<th></th>
<th>Opportunity Declined</th>
<th>Control</th>
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<td>Income Declined</td>
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<td>Ability</td>
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<td>Aspiration</td>
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<td>2.53</td>
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</table>

* Higher numbers for the education and jobs variable indicates stronger support for external causes, while lower numbers for ability, effort and aspirations variables indicate stronger attribution to external causes.
APPENDIX 1

BACKGROUND INFORMATION ABOUT RAETOROMANEN

The Raetoromanen are a small ethnic group living primarily in the Central European country of Austria. Since Raetoromanen constitute only 3% (240,000) of Austria's nearly 8 million inhabitants, they are not well known outside of Europe. The Raetoromanen tend to be concentrated both in some of the mountainous, rural areas of the country and in a few urban centers. These areas of Raetoromanen habitation are in the western region of Austria. The city of Bregenz has the largest single concentration of Raetoromanen.

The Raetoroman people are distinguished by special customs and traditions. Their traditional costumes, now worn primarily on festival days, are very colorful and feature intricate embroidery and fine needlework. The traditional Raetoroman dances resemble somewhat the American square dance and are danced in many variations. These dances are accompanied by violin music, played on a unique five-string fiddle found only in the western regions of Austria. There are a number of distinctive Raetoroman social patterns, the best known of which is a strong preference for arranged marriages, which are usually negotiated between the bride's and groom's parents, with intervention from the local parish priest. Although Raetoromanen speak German, the national language of Austria, they also have distinctive Raetoromanisch language patterns, involving pronunciations and idioms not shared by other Austrians.
APPENDIX 2
INCOME LEVEL AND INCOME CHANGES

GENERAL DESCRIPTION GIVEN TO ALL SUBJECTS:

Excellent data are available concerning the Raetoromanen economic situation. An economic survey identifying Austrians by ethnic group was published last year, while this ethnic group data has not often been incorporated into Austrian economic surveys, these current data can be compared at least roughly to a similar survey conducted in the mid-1920's--about 50 years ago.

GROUP CURRENTLY AFFLUENT, INCOMES CONSTANT OVER GENERATIONS:

The surveys demonstrated some important facts about the economic situation. Fifty years ago, most Raetoromanen were affluent. In comparison with other Austrians, Raetoromanen incomes were distinctly above average. Since that time, Raetoroman incomes have remained about the same. Now Raetoromanen are still affluent. In relation to other members of Austrian society, Raetoromanen are still distinctly above average.

GROUP CURRENTLY IMPOVERISHED, INCOMES CONSTANT OVER GENERATIONS:

The surveys demonstrated some important facts about the economic situation. Fifty years ago, most Raetoromanen lived in poverty. In comparison with other Austrians, Raetoroman incomes were distinctly below average. Since that time, Raetoroman incomes have remained about the same. Now Raetoromanen are still poor. In relation to other members of Austrian society, Raetoromanen are still distinctly below average.

GROUP CURRENTLY IMPOVERISHED, INCOMES DECLINED OVER GENERATIONS:

The surveys demonstrated some important facts about the economic situation. Fifty years ago, most Raetoromanen were affluent. In comparison with other Austrians, Raetoromanen incomes were distinctly above average. Since that time, however, Raetoroman incomes have declined a great deal. Now Raetoromanen are not well off economically. In relation to other members of Austrian society, Raetoromanen are now distinctly below average in income.
OPPORTUNITIES DECLINED OVER GENERATIONS

The surveys and numerous government reports showed that the opportunities available to Haetoromanen have an interesting history. Over the last fifty years, opportunities have actually declined a great deal. This decline in opportunities stemmed from decreased funding coming to the western region from government sources. In Austria, most taxes go to the federal government, which then redistributes money to the different regions for various purposes. In recent decades, the federal government substantially reduced funds to the western region where Haetoromanen live. As a result, schools reduced teaching quality, increased class size, and were unable to provide students with the quality of materials and physical conditions that existed previously. Furthermore, financial aid was reduced and so fewer Haetoromanen were able to attend the Gymnasium (high schools) and Universities. Previous funds that had stimulated regional industries and tourism were also greatly reduced. Money for vocational training was diminished, and previous legislation that offered special opportunities for Haetoromanen was repealed.