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9. ABSTRACT

This paper examines the interrelationships of economic gratification patterns with age, occupation, income, self-evaluation of socioeconomic position, material culture, ownership of means of production, education, exposure to mass media, urbanization, acculturation, and cosmopolitness among small-scale fishermen in Panama and Puerto Rico. The research data were obtained through interviews with 123 fishermen in Panama and 111 fishermen or cane workers in Puerto Rico. The attitudes of the fishermen toward spending or investing money received as a gift were investigated through two standard questions. The answers were then assessed in terms of the above-mentioned independent variables, which were investigated through other questions in the interviews. The results showed that older fishermen are more likely to defer their economic gratifications--that is, to save or invest unexpected income, rather than spend it on luxury items. In general, the findings indicate, as the authors state in their Conclusions section, "a strong situational component influencing differential patterning of determinants of gratification patterns. Periodicity, relative security, optimism, and opportunity structure are proposed as general factors influencing gratification orientations." The "strong situational component" is taken to mean that the preference of the fishermen for spending the money or saving it was influenced more by the immediate, personal details of their situation than by any generalizable, analyzable theoretical construct the researchers set up as independent variables.

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Economic Gratification Orientations Among Small-Scale Fishermen in Panama and Puerto Rico

by

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Economic Gratification Orientations among Small-Scale Fishermen In Panama and Puerto Rico[1]

Richard B. Pollnac and John J. Poggie, Jr.

Economic development and change depends in large part on the judicious allocation of capital. Governments, other institutions, and individuals continually make decisions concerning the disposition of available funds--decisions which in the aggregate affect them and the societies in which they exist. The importance of the individual consumer in this decision making process is reflected in the United States government's use of tax reductions as an economic stimulus. The use of this procedure assumes that individuals will immediately spend such windfalls, thus increasing business activity. Nevertheless, individuals do not only practice immediate gratification--they sometimes invest their resources for future gains. As Doob (1971:409-410) has noted, there is a time and a place for varying temporal orientations. Some individuals under certain conditions defer gratification, that is they postpone immediate desires in order to obtain more substantial rewards in the future. Other individuals immediately gratify their desires. Changing social conditions, however, may substantially alter this pattern (cf. Thompson 1975).

Many scholars (e.g. Dundes 1969; Graves 1966) contend that deferred gratification is an important cultural pattern in modern Euro-American society. Weber (1930) suggests that the Protestant

ethic promotes this behaviour pattern which is alleged to be central to modern day industrial and capitalistic society. In contrast to these arguments, however, everyday experience suggests that modern Euro-American economies are based on immediate gratification. Almost anything can be obtained with easy credit plans. As was noted above, recent government tax cuts are based on the assumption that individuals will immediately spend their increased income and stimulate the economy. It therefore seems that modern societies are characterized by easy credit and immediate gratification patterns which serve to fuel the economy (Pollnac, Gersuny & Poggie 1975). Research indicating a tendency for deferred gratification behaviour to increase, level off, then decrease as degree of modernization increases is in agreement with these observations (Pollnac & Robbins 1972).

Galbraith, however, notes that in developing countries where there is a large population near or below the margin of subsistence there is a special case against conspicuous consumption of luxuries. He writes "the question of how much should be consumed now and how much should be invested for larger production and consumption later on assumes a vastly greater urgency, for in the poor country the necessary saving may have to come from people who are already insufficiently supplied" (1964:4).

Nevertheless, in rapidly changing economies we find conflicting forces acting on the individual consumer. Some change agents have opted for a strategy which Bodley refers to as

"creating progressive consumers" (1975:130). This strategy calls for increasing consumer demand. In contrast, sustained development with limited initial capital demands reinvestment of a reasonable proportion of what may initially be a relatively small profit. Such reinvestment is exceedingly difficult in poor countries where the pressures of current needs are great. Nevertheless, most international aid development projects are characterized by relatively small initial expenditures with an expectation of continued development through some sort of reinvestment. Even with the more modest goal of steady-state following initial investment many projects require reinvestment for routine maintenance of equipment, soils, etc.

The individual in many developing economies is thus confronted with conflicting demands: (1) as participant in a development project, he as an individual farmer, fisherman, etc. should reinvest some of his profit to maintain a steady state or sustain development; (2) as a potential consumer he is exposed to material goods through mass media advertising and their conspicious display in shops with the misguided assumption that increased consumption always spurs economic development; (3) as a poor person in what is usually a stratified society, he has needs created by both real and relative deprivation which sometimes take priority over abstract developmental goals. In some cases mandatory forms of savings or taxation are used to insure availability of capital for sustained development. Nevertheless, most would agree that individual investment and

development is the preferred option. It is suggested that an understanding of the factors associated with individual gratification orientations might be useful in designing programs aimed toward this more favorable option.

A great deal of research has related gratification orientations to a host of variables. For example, variability in gratification orientations has been related to modernization and acculturation (Doob 1960; Graves 1967; Rogers 1969; Inkles 1969; Pollnac and Robbins 1972; Robbins and Thompson 1974; Thompson 1975), age (Mischel and Metzner 1962; Lessing 1968; Pollnac and Robbins 1972), socio-economic status (Graves 1967; Wober and Musoke-Mutanda 1971; Thompson 1975), urbanization (Gold 1967; Robbins and Thompson 1974, Thompson 1975), economic predictability and security (Rodgers 1967; Meade 1971; Robbins and Thompson 1974; Thompson 1975), community level of economic development and industrialization (Turner 1971; Rosen 1971), reward salience (Mischel, Ebbesen, and Zeiss 1972; Robbins and Thompson 1974; Thompson 1975), efficacy and optimism (Pollnac, Gersuny, and Poggie 1975; Thompson 1975), occupation and periodicity of income (Pollnac, Gersuny, and Poggie 1975). Thompson's research is of methodological significance. He found little overall relationship between various independent variables and deferred gratification behaviour until he examined the interrelationships within specific subgroups of his sample. Most important, he demonstrates that there are cross-group differences in the variables related to economic gratification patterns and

relates these differences to socioeconomic security (Thompson 1975). The present paper builds upon the above findings. Specifically, we examine the interrelationships of economic gratification patterns with age, occupation, income, self evaluation of socioeconomic position at various time periods, material culture, ownership of means of production, education, exposure to mass media, urbanization, acculturation and cosmopolitness among small-scale fishermen in Panama and Puerto Rico.

METHODS

SAMPLE Data for this report are based on interviews with 123 small-scale fishermen from Panama and 111 adult males (19 factory workers, 28 cane workers, 50 fishermen, and 14 'others') from Puerto Rico.

The Panamanian sample was drawn from fishermen concentrations in Colon on the Atlantic coast, Panama City on the Pacific, and at numerous locations along the Pacific Coast from Panama City to the Costa Rican border (see Figure 1). The Panamanian sample is further broken down into three subgroups on the basis of exposure to a modern urban lifestyle: (1) an urban subgroup consisting of fishermen from La Playita, Colon and Chorrillo, Panama City; (2) an intermediate subgroup of fishermen from Pedregal, Puerto Armuelles, and Boca Parita; and (3) a rural subgroup of fishermen from Farallon, La Enea and south on the Azuero Peninsula, and Remedios. The urban subgroup is located in towns with populations exceeding 50,000, the intermediate

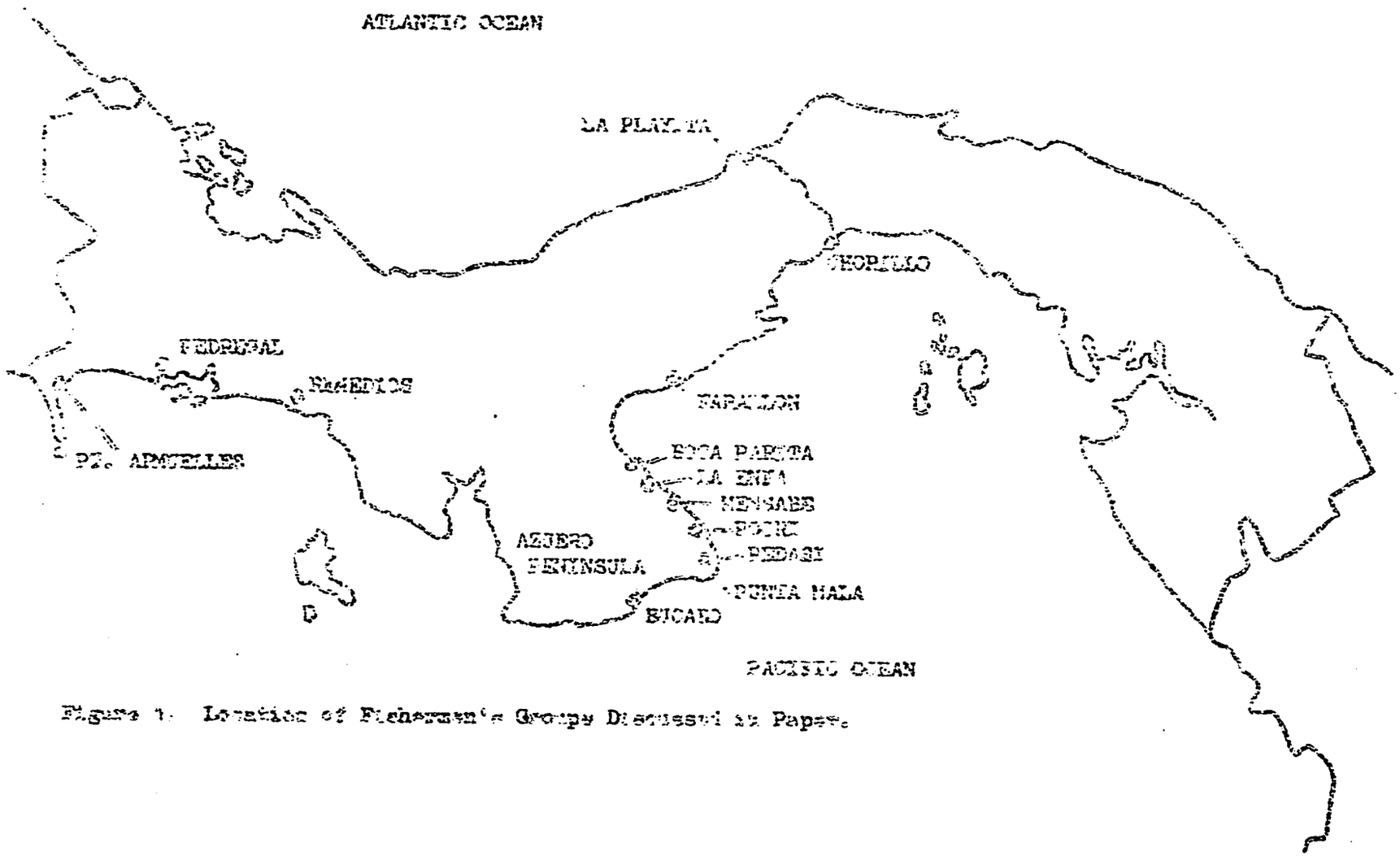

Figure 1. Location of Fisherman's Groups Discussed in Paper.

adjacent to or in towns with populations exceeding 10,000 but less than 50,000, and the rural subgroup is adjacent to towns with populations of 5000 or less. Locations of the various fishermen's groups can be found in figure 1 and are more thoroughly described in Pollnac and Ruiz-Stout (1976).

The Puerto Rican sample is drawn from Puerto Real, a coastal settlement of about 2000 and part of the town of Cabo Rojo approximately three kilometers away. Puerto Real has long been an important fishing community as well as the residence of many cane workers who gain their livelihood from working in the fields which surround the community on three sides. Within the community today there are a number of merchants, vendors, publico drivers, and other small-scale entrepreneurs as well as a number of factory workers who work in the several new factories that have become a common feature of the Puerto Rican landscape in recent decades. The locations of Puerto Real and other points of interest can be found in Figure 2.

TESTS Although we had planned to collect strictly comparable data in both areas, situational constraints and differing research interests resulted in some differences in a few of the independent variables. Unless noted otherwise, however, it can be assumed that the same variables were measured in both areas.

The dependent variable, economic gratification orientations was measured with the use of two questions: (1) If you were to receive $200 as a gift or inheritance what would you do with it? (2) If you were to receive ($1000 Panama) ($2000 Puerto Rico)

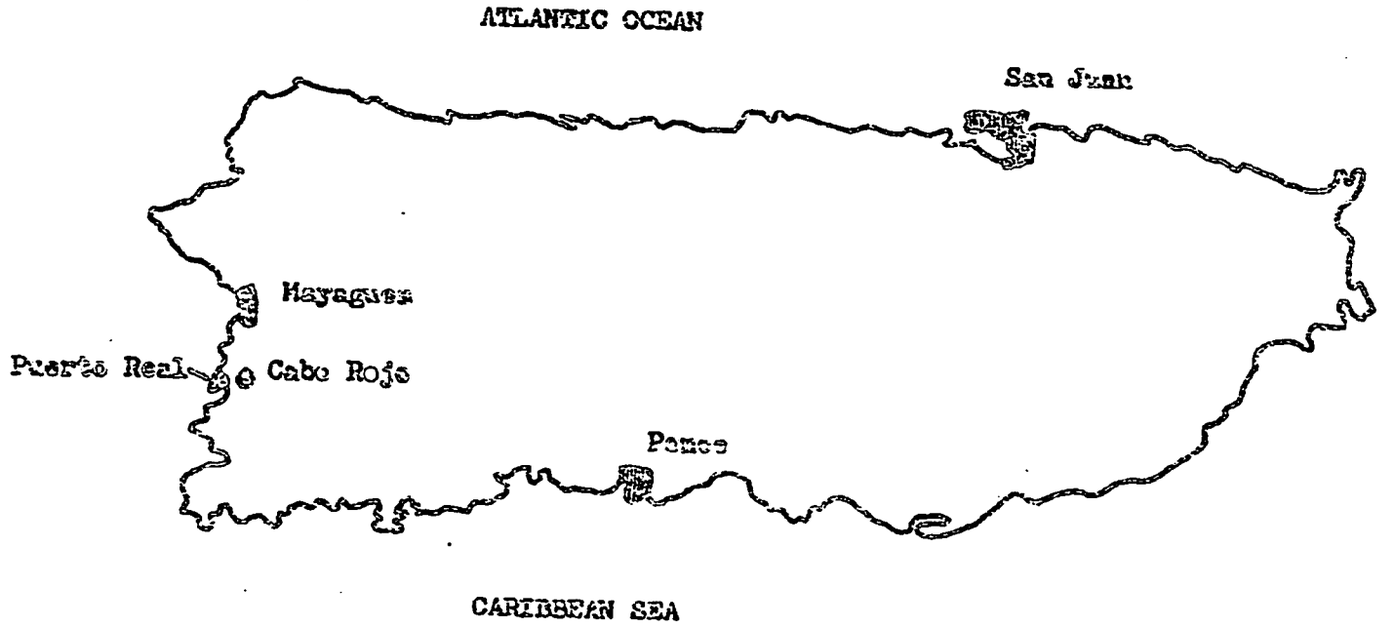

Figure 2. Map of Puerto Rico with places mentioned in paper.

as a gift or inheritance what would you do with it?[2] Responses to each question were coded as deferred if the response reflected an investment for future gain (e.g. purchase fishing equipment, put in bank, buy a business, etc.) or immediate if lacking an investment factor (e.g. buy things for the house, clothing, etc.). Responses including both categories were coded as mixed. The immediate category was assigned a value of one, the mixed a value of 2, and the deferred a value of three. The values assigned to each of the two questions were summed for each fisherman resulting in a scale having a range from two to six. This scale will be referred to as the EGOCOMP Scale. Responses to the $200, $1000, and $2000 questions will be referred to as the EGO200, EGO1000, and EGO2000 Scales respectively.

Self-evaluation of socioeconomic position was determined with the use of the ladder of life test (cf. Cantril 1963). The ladder of life test consisted of showing the respondent a ladder diagram with ten rungs. He was told that the top rung represented the best possible life and the bottom, the worst. He was then requested to tell us where he stood on the ladder at the present time, five years in the past, and five years in the future.

Material culture was measured in Panama with the use of a check list containing eight material items: (1) own a house; (2) indoor plumbing; (3) indoor toilet; (4) electricity;

(5) radio; (6) television; (7) refrigerator; (8) sewing machine. Each item was assigned a score of one if present and zero if absent. The scores for all eight items were summed forming a scale of material items. Item total correlations were calculated and all were high (ranging from 0.51 to 0.75) except for house ownership. House ownership was eliminated from the scale, and item-total correlations were re-calculated. All item-totals were high (ranging from 0.46 to 0.77; $p < 0.01$). The resultant scale, composed of seven items, is referred to as the Material Culture Scale. House ownership is considered as a separate dichotomous variable in Panama. In Puerto Rico the material culture scale consisted of the total number of the following items possessed by the respondent: radio, record player, high-fi, black and white television, color television, washing machine, clothes dryer, freezer, air conditioner, refrigerator, water heater, house having above the average number of rooms, home ownership, inside toilet, inside bathtub or shower, and automobile.

Exposure to mass media was measured in Panama by asking the fisherman how many days per week he listened to the radio, read newspapers, watched television, read magazines, and went to the cinema. The frequencies for the five mass media were summed forming a scale with a potential range of from zero to 35. Item total correlations were calculated and were found to range from 0.39 to 0.69, all significant at better than the 0.01 level. This scale is referred to as the mass media exposure scale. In Puerto Rico exposure to mass media was measured by determining

whether or not the respondent reads magazines or newspapers.

With respect to occupation the Panamanian sample consisted entirely of fishermen, but it was expected that length of time as a fisherman would be an important factor, so respondents were asked how long they had been fishing. The fisherman's father's occupation was also determined as well as whether or not the fisherman had a job other than fishing.

Income was measured in Puerto Rico by determining total annual income as well as the greatest amount the respondent earned in one week in the previous year. In Panama, total income for the previous month was recorded. Age and years of formal education were determined from answers to direct questions. Ownership of means of production (Panama only) was considered as a potential indicator of economic security. This variable was measured by determining if the individual fisherman owned the boat he fished from. Urbanization (Panama only) was evaluated on the basis of the categorization of the Panamanian sample discussed above which divided the sample into urban, rural, and intermediate subsamples. Finally, cosmopolitness (Puerto Rico only) was measured by frequency of visits to three urban areas (cf. Rogers 1969). The frequency of visits were examined individually and a scale was formed by summing the frequencies for each urban area. This scale is referred to as the Cosmopolitness Scale.

ANALYSIS

A preliminary examination (Pollnac and Ruiz-Stout 1976_b) of the interrelationships between the independent and dependent variables for the Panamanian sample indicated that only two of the variables were significantly correlated with the EGOCOMP Scale: having a fisherman father ($r=-.244$, $N=123$ $p<.01$) and boat ownership ($r=.298$, $N=123$, $p<.01$). Overall these relatively weak relationships between the independent and dependent variables suggest that the data base is too heterogeneous.

Perhaps the combination of individuals from widely divergent sociocultural matrices weakened or totally obscured significant within group associations between the variables. For example, we may find a negative relationship between two variables in one subsample and a positive in another as a result of varying environmental influences. If the two subsamples are combined, the overall relationship will be substantially weakened, and it will appear that the variables are unrelated. Operating under the assumption that there are significant intergroup differences in the correlates of economic gratification patterns among small-scale fishermen in the Republic of Panama, the total sample was divided into the three subgroups described above: an urban, a rural, and an intermediate. It is suggested that such a division reflects the greatest overall variance with regard to the sociocultural environment of the fishermen.

An analysis of the independent and dependent variables

across the three Panamanian subgroups indicated that there are numerous differences which are statistically significant at the 0.05 level or better (cf. Pollnac and Ruiz-Stout 1976_b).

The urban sample is the oldest and the intermediate the youngest. The same pattern holds for number of years fishing and is probably due to the strong relationship between age and number of years fishing. A larger percentage of the fishermen in the rural areas have fathers who were farmers than in the urban area--an expectable difference. Income from fishing and total income is highest in the urban areas and lowest in the intermediate. The largest proportion of house owners is found in the intermediate area and the lowest in the urban. The material culture scale manifests a pattern which is the inverse of house ownership with the highest values in the urban area and the lowest in the intermediate. Mass media exposure and formal education are highest in the urban area and lowest in the rural. Finally, the dependent variable, the EGOCOMP Scale differs significantly across the three areas with the greatest amount of deferred orientation being manifested in the intermediate area and the lowest in the rural. Overall, the three subsamples differ significantly with respect to a substantial proportion of the independent variables. The differences in combination with obvious rural/urban differences (e.g. differences in exposure to a modern urban life style, occupational and educational opportunities, differential distributions of wealth, etc.)

suggest that there are situational constraints which could result in differential patterning of the determinants of economic gratification orientations. The Panamanian sample is thus divided into the three above mentioned subgroups for analysis.

The interrelationships between the EGOCOMP Scale and the independent variables within each of the Panamanian subgroups and the Puerto Rican fishermen can be found in Table 1. The Puerto Rican fishermen are from one community, thus there is no reason to separate them into subgroups.

Significance levels in Table 1 take into account changes in sample size due to missing data concerning income and ladder T_{+5}. This missing data results from the fact that some fishermen from both Panama and Puerto Rico claimed they could not remember their income, and others refused to hazard a guess as to where they would stand on the ladder of life five years in the future. It is suggested that refusal to respond to the future component of the ladder test indicates a feeling of lack of control over the future or a fatalistic attitude. This variable was therefore dichotomized for the Panamanian sample with individuals who give a response receiving a value of one and those who refuse to respond, a value of zero. This new variable is referred to in Table 1 as Ladder T_{+5} Response.

It is obvious that the situational differences between the areas result in differential patterning of the correlates of economic gratification orientations. There are no cases of significant correlations in opposit directions for the same

Table 1. Correlations between EGOCOMP Scale and Independent Variables among Fishermen in Panama and Puerto Rico

Variable	Puerto Rico	Panama Urban	Panama Intermediate	Panama Rural
1. Age	-.24	.33*	.18	.05
2. Education	-.05	-.14	-.02	-.02
3. Ladder T-5	-.28*	-.26	.08	.18
4. Ladder To	.13	.08	-.05	-.05
5. Ladder T+5	.11	.39*	.03	-.01
6. Ladder To - T-5	.31*	.29	-.08	-.19
7. Ladder T+5 - To	-.02	.18	.10	-.06
8. Ladder T+5 - T-5	.24	.59*	-.01	-.12
9. Ladder T+5 Response(P)	-	-.18	.02	-.24
10. Material culture	.13	.04	.01	-.14
11. Mass Media Exposure	-.08	.02	.19	-.17
12. Total income	.10	-.13	.09	-.07
13. Income from fishing(P)	-	-.35*	-.06	-.01
14. Non-fishing income(P)	-	.13	-.17	-.14
15. Most earned in one week (PR)	.27*	-	-	-
16. Years fishing(P)	-	.24	.01	-.19
17. Farmer father(P)	-	-.06	.23	.15
18. Fisherman father(P)	-	.11	-.40*	-.37**
19. Two occupations(P)	-	.03	-.22	-.17
20. Own boat(P)	-	.24	.43**	.08
21. Own house(P)	-	.02	.30	.04
22. Times to San Juan(PR)	-.12	-	-	-
23. Times to Ponce(PR)	.22	-	-	-
24. Times to Mayaguez(PR)	.16	-	-	-
25. Cosmopolitness(PR)	.14	-	-	-
N	50	37	38	48

*=p < .05 **=p < .01 (P)=Panama only (PR)=Puerto Rico only

variable, and in instances where the signs do differ, the non-significant correlation is quite weak. This indicates that there are no radical differences in patterning, at least with respect to the zero-order correlations. In the Puerto Rican sample two aspects of the Ladder of life test and the most income earned in one week are significantly related to the EGOCOMP Scale. Turning to the Panamanian sample we find that in the urban area, age, income from fishing, and several aspects of the ladder of life test are significantly related to the EGOCOMP Scale. In the intermediate area boat ownership and having a father who was a fisherman are significantly correlated with the dependent variable, while in the rural area only fisherman father is significantly related to economic gratification orientations.

A multiple regression analysis was performed to determine the interrelationships between some of the independent variables and the EGOCOMP Scale within each sample. With regard to the Puerto Rican fishermen, three non-overlapping variables which have high correlations with the dependent variable were selected as independent variables: Ladder T_0-T_{-5}, most earned in one week, and age. The multiple correlation between these variables and the EGOCOMP Scale is 0.42 ($p < .01$, $N=50$), indicating that these three variables in combination account for 18 percent of the variance in the dependent variable--a modest but respectable sum.

A stepwise multiple regression analysis procedure was used to analyse the Panamanian data. In this procedure all the

independent variables are intercorrelated with the dependent variable and the independent variable which explains the most variance in the dependent is entered into the equation first. The next variable entered is the one which explains the most variance with the first controlled. This procedure is continued until all the variables are entered or until a previously set criterion is reached. The income and Ladder T_{+5} variables (variables 5, 7, 8, 12, 13, 14 in Table 1) are eliminated from this analysis due to missing data. The ladder T_{+5} dichotomy (those who responded versus those who refused to respond, Table 1, Variable 9) was included in this analysis however. Entry into the regression equation was restricted to variables whose partial correlations with the EGOCOMP Scale are statistically significant with previously entered variables controlled. The results of this analysis can be found in Table 2.

With regard to the Panamanian sample, in the urban area three independent variables account for 35 percent of the variance in the EGOCOMP Scale. In the intermediate area 4 account for 47 percent, and in the rural 2 account for 21 percent. Overall, the results of the multiple regression analysis are quite strong and will be discussed in the following section.

Table 2. Stepwise Multiple Regression of Independent Variables on EGOCOMP Scale for Panamanian Subgroups.

Urban Subgroup

Variable Entered and Controlled	Partial to Enter	Multiple R with EGOCOMP Scale
Age	-	.330[a]
Ladder T_{-5}	-.408[b]	.507[b]
Ladder T_{+5} Response	-.347[a]	.589[b]

N=37 a=p < .05 b=p < .01

Intermediate Subgroup

Variable Entered and Controlled	Partial to Enter	Multiple R with EGOCOMP Scale
Own boat	-	.425[b]
Father fisherman	-.421[b]	.570[b]
Ladder T_{+5} Response	.358[a]	.642[b]
Own house	.320[a]	.687[b]

N=38 a=p < .05 b=p < .01

Rural Subgroup

Variable Entered and Controlled	Partial to Enter	Multiple R with EGOCOMP Scale
Father fisherman	-	.371[b]
Ladder T_{-5}	.290[a]	.459[b]

N=48 a=p < .05 b=p < .01

Finally, turning to the influence of occupation on gratification orientations we find that in the Puerto Rican Sample the fishermen are the most deferred (see Table 3). Comparable data is not available for the Panamanian sample.

Table 3. Analysis of Variance of EGOCOMP Scale across the four Occupational Subgroups in Puerto Rico.

Variable	Factory Workers	Cane Workers	Fishermen	Others	F Ratio	DF	p
EGOCOMP Scale ($\bar{X}$)	2.79	2.96	4.36	3.50	9.41	3 105	<.001

DISCUSSION

Limiting the discussion to variables significantly related to the dependent variable, we find that age is related to economic gratification orientations only in the Panamanian urban sample. There we find that older fishermen are more deferred than younger. This is the opposit of our expectations as well as opposing the direction of the correlation in the Puerto Rican sample. The correlation between age and the EGOCOMP Scale among Puerto Rican fishermen, although not statistically significant, is in a negative direction and relatively modest in strength. Further, Pollnac and Robbins (1972) found a significant negative relationship between age and deferred gratification behaviour in Buganda and argue that younger Baganda defer more than older because there is a higher probability that their expectations will be fulfilled. The correlations presented here

and in Pollnac and Robbins (1972) add to research which has indicated either no relationship or an inconsistent one between the two variables (Doob 1971; Robbins and Thompson 1974; Pollnac, Gersuny, and Poggie 1975). Nevertheless, the data from Panama can be interpreted if it is assumed that older individuals in the urban sample are more secure and less subject to a situation of high reward salience. Older fishermen have had more time to acquire equipment and their maturity probably makes them less susceptible to impulse buying in an urban location where luxury items are quite salient. These assumptions are born out by a within urban subsample correlation analysis which indicates that older individuals have been fishing longer ($r=.417$, $N=50$, $p<.01$), are more likely to own their own boat ($r=.408$, $N=50$, $p<.01$), are more optimistic about their future status ($r=.420$, $N=43$, $p<.01$), and more likely to own their own home ($r=.397$, $N=50$, $p<.01$) all indicating a degree of security.[3] Age also has a strong positive relationship with the EGP200 Scale ($r=.391$, $N=37$, $p<.01$) indicating less of a tendency for small-item impulse buying among older fishermen. Additionally, older individuals possess less items on the material culture scale ($r=-.437$, $N=50$, $p<.01$) suggesting that they are less likely to spend money on household luxuries--remember, however, that it was indicated above that they tend to own their own houses and boats. It thus appears that the positive relationship between age and the EGOCOMP Scale in the urban area can be explained by the fact that older fishermen are more secure and less subject

to reward salience than younger fishermen.

Perception of socioeconomic position (the ladder test) is significantly related to economic gratification orientations in both Puerto Rico and the Panamanian Urban subsample. It is interesting to note that the patterning of the correlations are similar for the two samples although their magnitudes are different.

The Panamanian urban sample manifests strong positive correlations between a deferred economic gratification orientation and both socioeconomic position five years in the future and projected progress from five years in the past to five years in the future. In light of Thompson's (1975) research, it is significant that these strong oorrelations occur only in the urban area. Thompson constructed an optimism-efficacy index which included a question concerning an individual's perception of his future status relative to his present status. His measure is therefore related to the ladder test used here. Thompson's optimism-efficacy index was significantly correlated with the gratification orientation index only within his urban sample ($r=.332$, $N=100$, $p<.001$). The fact that both his study and ours find strong zero-order correlations with optimism only in the urban area is extremely interesting. Thompson argues that deferred gratification is an unattractive strategy in the urban area in Uganda due to ambiguities and uncertainties concerning social status and the general insecurity of the urban environment. The relationship between optimism-efficacy and

gratification patterns in the urban area leads him to suggest that "urbanites are more likely to adopt a strategy of delayed gratification when they perceive that their efforts will be rewarded and they have achieved a measure of optimism with regard to future outcomes" (1975:204). His argument is supported by the fact that urban residence is negatively related to deferred gratification orientations.

It can be argued that the Panamanian urban sample is also subject to a certain amount of insecurity and external control. Seventy-two percent of the urban sample live in La Playita, Colon. When interviews were conducted in this community the people were in a state of anxiety due to a rumour circulating concerning construction of a new boulevard which would force destruction of their community, and result in their being moved to a new location. Fishermen complained of being required to learn new fishing areas, of being too far from consumers, and of the overall disruption caused by the projected move. This is a good example of uncertainty caused by forces beyond the control of the population. Conditions such as these did not exist in any other section of the sample, nevertheless, the urban sample is intermediate with respect to a deferred orientation--the rural sample is less deferred and the intermediate more. It is also important to note that the urban sample is intermediate with respect to optimism as measured by the ladder test. Nevertheless, the strong positive relationship between degree of optimism and deferred gratification

orientations in urban areas in both Panama and Uganda suggest that in situations characterized by uncertainty, one must be optimistic in order to view a deferred orientation as a realistic behavioural alternative. Perhaps the relatively high degree of optimism and deferred orientation in the urban area in Panama can be attributed to the fact that the Panamanian social environment is overall more predictable, progressive, and oriented toward general human welfare than that of Uganda at the time Thompson conducted his research.

In both Puerto Rico and the Panamanian urban samples we find that the more deferred an individual is, the lower he will evaluate his socioeconomic position 5 years ago and the larger the perceived progress from five years ago to the present. The content of the fishermen's deferred responses help account for this relationship. Most fishermen respond that they would invest in fishing equipment; thus perceived success in the past as a fisherman provides justification for further investments in productive equipment. The fisherman has empirical evidence that his efforts will be rewarded. Once again, these findings can be related to Thompson's (1975) Ugandan data. Perceived success is related to the efficacy portion of Thompson's Optimism-Efficacy index which was discussed above. In a situation characterized by uncertainty one must feel efficacious in order to view a deferred orientation as an attractive alternative course of action. We have already outlined the uncertainty present in the Panamanian urban sample. As would be expected,

there was also a significant degree of uncertainty among the fishermen of Puerto Real, Puerto Rico. Fishermen were continually complaining about inflation and the inability to predict prices of equipment and supplies. Additionally, the gasoline supply for the mechanized vessels was controlled by one individual who was rather capricious concerning allocation of his supply. Thus both samples were characterized by uncertainty, and in both a feeling of efficacy was related to a deferred orientation.

The strong negative relationship between income from fishing and the EGOCOMP Scale in the Panamanian urban area is rather surprising. It was assumed that individuals with the most economic access would be most likely to defer since those with limited access can least afford to defer gratification (Rodgers 1967; Pollnac and Robbins 1972). The Puerto Rican findings support this earlier research. The Panamanian findings, however, suggest that those with the highest incomes in the urban area are already economically secure; thus extra money can be safely expended on luxury items. The fact that this strong relationship was found only in the urban area can probably be explained by the fact that luxury items are more salient in the cities, being on display in numerous shops, etc. Further, several investigators report that reward salience is negatively associated with deferred gratification behaviour (e.g. Mischel, Ebbesen, and Zeiss 1972; Robbins and Thompson 1974). These interpretations are supported by close examination of the separate components of the EGOCOMP Scale. It can be argued that perception of a

sum of money as something to be invested in a situation of high reward salience will be related to its relative amount in comparison to the amount the individual customarily manages. As these two sums approximate each other, the individual will be less likely to perceive the additional funds as an amount worthy of investment. If these assumptions are correct, it is expected that income from fishing will be more strongly related to the EGO200 Scale than the EGO1000 Scale. Mean income from fishing in the urban area was $106.87 for the month preceeding the interview. Eight fishermen reported an income of $200 or more indicating that $200 is probably not viewed as an unusually large amount of money by urban fishermen. The analysis of this data indicate that the relationship between income from fishing and the EGO200 Scale is in fact strongly negative ($r=-.453$, $N=37$, $p<.01$) while its relationship with the EGP1000 scale is close to zero ($r=-.007$, $N=45$, $p>.05$). Thus the strong negative relationship between income from fishing and the EGOCOMP Scale can be attributed to its EGO200 component, the high degree of reward salience in the urban area, and the degree to which $200 is perceived as an amount worthy of investment.

Another finding which is in an unexpected direction is that in the Panamanian intermediate and rural subsamples individuals whose fathers are fisherman are less likely to have deferred orientations than those whose fathers practice other occupations (this data has not been analyzed for Puerto Rico). Pollnac, Gersuny, and Poggie (1975) argue that the periodicity and small

scale entrepreneurship involved in the occupation of fishing results in a deferred orientation. It was therefore expected that individuals who come from a tradition of fishing would be more deferred than other individuals. Here, we find a negative relationship between a fisherman father and deferred economic gratification patterns. On retrospect, however, this surprising relationship can be accounted for in the Panamanian context if we take several other variables into consideration. First, Pollnac, Gersuny, and Poggie (1975) compare fishermen to millworkers in New England and argue that fishermen are more deferred because the periodicity of income from fishing is greater than that from millworking; thus fishermen need to have a deferred orientation to efficiently manage their income during slow periods. In Panama, however, 34% of the fishermen in our sample come from agricultural backgrounds. Overall, it can be argued that farming has greater periodicity of income than fishing, thus if periodicity is the factor affecting economic gratification patterns, we would expect individuals from agricultural backgrounds to manifest more deferred economic gratification behaviour than those from other occupational backgrounds. An examination of the data indicates that 17% of the fishermen whose fathers were farmers give an immediate response to the $1000 question in contrast to 48% of those whose fathers were not farmers. This difference is statistically significant (X^2=13.408, ϕ=.294, $p < .001$).

It must be noted, however, that there is an alternative

explanation for this unexpected relationship which does not take periodicity into account. When asked what they like most about fishing, the second most important factor mentioned by Panamanian small-scale fishermen is that they can make more money, in less time, than in any other occupation available to them (Pollnac and Ruiz-Stout 1975). It seems, therefore, that the individual from a non-fishing background who becomes a fisherman is upwardly mobile in an economic sense. He has taken a chance and improved his position, thus he may feel that he has more control over his destiny--a factor related to a deferred orientation (cf. Thompson 1975). In contrast, fishermen from a fishing family simply follow in the footsteps of their fathers, accepting the path of least resistance, never testing their efficacy. Both the data and the literature provide some support for this alternative explanation. First, coming from a farming background is significantly ($r=0.169$, $N=153$, $p < .05$) related to perceived degree of socioeconomic advancement in the last five years (Ladder $T_0 - T_{-5}$). Coming from a fishing background is not related to this variable. Second, Aronoff (1967:44) has suggested that more agricultural workers have not gone into fishing on Saint Kitts because they may lack the psychological ability to plan ahead and save. This suggests that individuals who go into fishing from an agricultural background have this ability. Why then is this relationship statistically significant only in the rural and intermediate subsamples? First, in the intermediate and rural samples a larger proportion of the fishermen

come from agricultural backgrounds (urban 10%, intermediate 38%, rural 52%) suggesting a greater potential for upward mobility. Only ten percent of the urban fishermen have fathers who farmed. Additionally many of the other occupations listed for fishermen's fathers in the urban area suggest that some present day fishermen are in fact downwardly mobile--a state of affairs not conducive to a deferred gratification orientation. Thus differential distributions of father's occupations may account for differences in relationships between the two variables within the three Panamanian subsamples.

The relationship between control of the means of production (boat ownership) and the EGOCOMP Scale within the Panamanian Intermediate Subsample was in the expected direction (this data was not analyzed for Puerto Rico). We had hypothesized that boat ownership would be an indicator of economic security--a variable found to be related to a deferred gratification orientation (Thompson 1975). The economic security interpretation of this correlation within the intermediate sample is supported by the significant partial correlation between house ownership and the EGOCOMP Scale when boat ownership is controlled ($r=.361$, $p<.05$). This partial correlation remains at a significant level even when the variation in the EGOCOMP Scale due to boat ownership, father fisherman, and Ladder T_{+5} are held constant (see Table 2). Nevertheless, once again, there is a likely alternative explanation for this relationship. First, Aronoff (1967) has argued that a deferred orientation

is necessary to obtain such equipment in the first place. Second, maritime boats and motors need almost continual preventative maintenance as well as periodic repairs. The boat owner must have a future orientation to take the time to perform the preventative maintenance which, after all, only reduces the chance of the need for a major repair in the future. He also needs a future orientation to put money aside for the periodic repairs which require parts if he wants the least amount of interruption in his future production. Thus boat ownership has three components which may contribute to a deferred orientation. The restriction of this strong correlation to the intermediate area can be partially explained by several factors. First, reported income from fishing is significantly lower in the intermediate area (urban $\bar{X}$=\$106.87, intermediate $\bar{X}$=\$44.61, rural $\bar{X}$=\$85.49; F=3.332; d.f.=2 124; $p < .05$). The boat share in an area with such a depressed income would result in significantly more security on the part of the individual fisherman. Second, a lower percentage of fishermen in the intermediate area had fathers who were fishermen (urban 20%, intermediate 16%, rural 24%), thus there was less of a chance for equipment to be inherited and more of a need for an initially deferred orientation to obtain the equipment. Thus, differences in patterning of the correlations can be partially accounted for by situational differences.

Finally, turning to the interrelationship between occupation and economic gratification orientations within the Puerto Rican

sample (this data was not collected in Panama) we find, as expected, that the fishermen are more deferred than any other occupational subgroup (see Table 3). In an earlier paper Pollnac, Gersuny, and Poggie (1975) argued that New England fishermen are more deferred than millworkers because of the opportunity structure and periodicity of fishing. For example, in both Puerto Rico and New England many fishermen are entrepreneurs. Those who do not own boats have friends who do, or have observed industrious fishermen who eventually accumulate enough capital to purchase a boat. Thus, access to the means of production and being one's own boss is a reality among fishermen. In contrast, factory and cane workers have an almost nonexistant chance to accumulate sufficient capital to buy a factory or plantation. The "other" category in the Puerto Rican sample is composed of shop keepers, fish vendors, etc. who were already small-scale entrepreneurs whose initial deferred orientation permitted them to take advantage of the opportunity structure available in Puerto Real for such endeavors. Their continued participation in this activity reinforced their deferred orientation. Ranking the Puerto Rican occupations in terms of opportunity structure we find the cane and factory workers ranked low and the fishermen and others ranked high. On the basis of the open access nature of marine resources it could be argued that fishermen should be ranked higher than the "others." Nevertheless, we will confine our discussion to the low/high dichotomy.

Turning to the periodicity component, we find that a fisherman's income is dependent on catch size which is difficult to predict and highly periodic. In contrast, the factory worker in Puerto Real is paid on a regular weekly basis. The cane worker is paid regularly during the working season, which lasts six months, and then falls back on employment security income which is also regular, but less than the working wage. The periodicity of cane work is thus higher than that of factory work. The incomes of the small shop owners, fish vendors, and other small-scale entrepreneurs depend on other incomes in the community; thus their periodicity is higher than that of the factory and cane workers, but lower than that of the fisherman. Even the fish vendor levels out variation in individual catch by buying from several fishermen. Thus if we rank the Puerto Rican occupations in terms of periodicity we find the factory workers lowest, followed by cane workers, then "others," and finally fishermen who have the greatest periodicity. These interpretations are summarized in Table 4 where we find a high degree of correspondence between opportunity structure, periodicity, and the EGOCOMP Scale.

Table 4. Opportunity Structure, Periodicity, and Economic Gratification Orientations in Puerto Real, Puerto Rico.

Occupation	Opportunity Structure	Periodicity	EGOCOMP Scale $\bar{X}$
Factory Worker	LOW	LOWEST	2.79
Cane Worker	LOW	LOW	2.96
Others	HIGH	MODERATE	3.50
Fishermen	HIGH	HIGH	4.36

CONCLUSIONS

In general our findings indicate a strong situational component influencing differential patterning of determinants of gratification patterns. Periodicity, relative security, optimism, and opportunity structure are proposed as general factors influencing gratification orientations. Subsample differences indicate that perceived socioeconomic progress, age, income from fishing, boat ownership and having a fisherman father are situationally influenced determinants of gratification orientations. Some differences in the patterning of these variables are explained on the basis of variability in relative security, reward salience, and occupational structure. Several of the alternative explanations of surprising relationships between the variables, although plausible, are after-the-fact and therefore need further testing. Nevertheless it should be noted that much of the satisfaction and some of the frustration of scientific research is encountered in surprising relationships which force the investigator to speculate, reconsider, and reformulate theory and method--a process which has been referred to as abductive hypothesis generation, and one which results in increasingly law-like statements about the phenomena under investigation (cf. Pollnac and Hickman 1975).

The importance of situational constraints with respect to the determinants of gratification orientations have been emphasized in several studies (Robbins and Thompson 1974, Thompson 1975). The results presented here emphasize the fact

that in order to understand the multiple determinants of this important variable in the developmental process in any one region, sub-regional variation with respect to the sociocultural environment must be taken into account. It cannot be assumed that individuals from one area or occupational subculture will respond to increased wealth in the same manner as those from other areas or occupational subcultures. If development funds are injected into a region with the goal of sustained development through reinvestment of reasonable amounts of profit, then situational determinants of deferred gratification are of utmost significance. Part of the developmental scheme should be involved with creating environments favorable to deferred orientations. Additionally, Robbins and Thompson (1974) argue the importance of constantly monitoring the manner in which such new opportunities are perceived by members of the local population. Such monitoring would reveal a great deal about the variance in success of such programs.

In conclusion, it is important to note that Poggie, Bartee, and Pollnac (1976) have recently found that a deferred orientation is an important predictor of success among small-scale fishermen in Puerto Rico ($r=.39$, $N=50$, $p < .01$). The empirical verification of the importance of this variable with respect to development emphasizes the importance of taking into account its situationally influenced determinants.

FOOTNOTES

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2. The U.S. dollar is the unit of currency in Puerto Rico. In Panama both dollars and Balboas are used. In fact, the dollar was the only paper currency used throughout the country when the research was conducted.

3. Subsample sizes vary due to the fact that economic gratification orientation data was collected from only 123 members of a total Panamanian sample of 153. Other variation is due to missing data as described in the text.

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