

MODELING COGNITIVE REPERCUSSIONS OF EDUCATION AMONG FILIPINO WOMEN*

Freddie R. Obligacion, Western New England College

ABSTRACT

Through structural equation modeling, this study demonstrated that high educational attainment resulted in perceptions of self-efficacy, high self-esteem, high success expectations, strong motivation for self-improvement, and favorable attitudes toward achievement among 620 Filipino women. Findings underscore the importance of continued support for educational programs in developing countries.

STATEMENT OF THE PROBLEM AND LITERATURE REVIEW

What are the cognitive consequences of educational attainment among Filipino women? In addressing this question, I formulated a causal model containing structural and cognitive components. The structural component of the model was based on the sociological literature on the relationship between education and self-efficacy. Low educational levels have been associated with personal powerlessness or the perception that outcomes are determined by external and uncontrollable forces (Coady 1950; Ferguson, Johnson 1990; Jessor, Graves, Hanson, Jessor 1968; Livingstone 1945; Vann 1948). Conversely, high educational attainment correlated with perceptions of self-efficacy or personal control (Coady 1950). Self-efficacy is the belief that outcomes are contingent upon one's actions (Mirowsky, Ross 1983).

The model's cognitive component tapped attribution theory's emphasis on people's attributions or causal explanations of events. This theory clarifies the relationship between phenomena (effects) and the reasons (responsible agents) behind events (Weiner 1972). Attribution theory further contends that people develop consistencies or attributional styles in explaining to themselves why events happen (Gardner, Holzman, Klein, Linton, Spence 1959). Personal powerlessness constitutes an example of an attributional style (Abramson, Seligman, Teasdale 1978) characterized by an external locus of control (Rotter 1966) and the perception of uncontrollability.

People's attributional styles can have significant cognitive consequences (Taylor 1989). An internal locus of control has been linked with high achievement, controlling for IQ and cognitive impulsivity (Lefcourt 1976), high self-esteem (Beckman 1970; Lanzetta, Hannah 1969; Weiner, Kukla 1970), high expectations (Phares 1957; Rotter 1966), greater persistence and a strong drive for self-improvement

(Feather 1966; Marone 1992; Seeman 1983; Seeman 1972; Taylor 1989).

The foregoing findings can be viewed within an integrated and causal perspective through the attributional model of achievement motivation and general attributional model of action postulated by Atkinson (1964) and Weiner (1972), respectively. Atkinson argued that people with high achievement needs attribute success to ability and effort. This particular kind of attribution yields a more positive affect for success. In turn, positive affect increases success expectancies and the probability of achievement behavior. Weiner (1972), for his part, proposed that attributions determine achievement-related affects (pride or shame) and expectancies of success. The level of expectations, in turn, determines the subsequent response.

Guided by the sociological and psychological literature, I constructed a causal model positing that educational attainment generates sequelae of cognitions, namely, self-efficacy, favorable attitudes toward achievement, high self-esteem, high success expectancies, and a strong motivation for self-improvement.

CULTURAL CONTEXT

A fragmented gender construction characterizes the Philippine cultural landscape (Blanc-Szanton 1989). On one hand, tradition places Filipino women on a pedestal (Fox 1965). On the other hand, patriarchy perpetuates stereotypes of women as "homemakers" and "emotional." Sustained by Spanish and American colonialism (Sobritchea 1990), this clash of ideologies has impacted Filipino women's societal status.

While 54 percent of all Filipino college students and 65 percent of postgraduates are women, this high level of educational attainment has not translated into high labor force participation and economic advantages (Licuanan 1991). While 87 percent of Filipino

men are economically active, only slightly more than half of the Filipinas aged 15 or older are so (Licuanan 1991). In 1986, Filipinas earned 37 centavos for every peso their male counterparts earned.

Even when employed, Filipinas constitute a mere 25 percent of managerial positions. The clerical, sales, and domestic service sectors register a disproportionate percentage of Filipinas (Licuanan 1991). Although prominent in appointive offices in the diplomatic corps, career services, and the judiciary, Filipinas have yet to establish significant visibility in elective offices (Rodriguez 1990). Poverty-stricken, many Filipinas migrate to urban centers or foreign countries in search of a better life. Unfortunately, many become victims of exploitation and abuse by their partners or employers (Aguilar 1987).

Bicolanas, residents of the Bicol Peninsula and respondents of this study, share the paradoxical status of their Filipina sisters. Bicolanas have become successful engineers, bank managers, military officers, technicians, high-level politicians, university presidents, bar topnotchers, lawyers, accountants, entrepreneurs, surgeons, dentists, and professors.

Filipinos respect the Bicolanas' strength of character, leadership skills, sense of responsibility, and entrepreneurial talent (Mercado 1966; Polotan 1967). However, 70 percent of Bicolanas fall below the poverty line (Bicol University Development Foundation, Inc. 1992). They also show a deep streak of conservatism (Mercado 1966). Ethnographic vignettes characterize Bicolanas as tradition-bound women who perform role of dutiful wives, solicitous partners, and devoted housewives (Polotan 1967).

METHODOLOGY

The Setting

The Bicol Region is in the southeastern part of Luzon Island. It has a poverty incidence of 72.3 percent compared with the national poverty rate of 55 percent. It also holds the record for the highest population growth (2.8%), malnutrition rate (44%), and emigration rate (2.8%) among the 12 regions in the Philippines (National Economic and Development Authority 1990). Located along the Philippine typhoon belt, the region experiences an average of four typhoons annually.

Measurement

The following instruments measured the

cognitive variables in the model: Culture-Sensitive Personal Powerlessness Scale (CSPPS; Cronbach's $\alpha=0.82$), the Valuation of Achievement Scale (VAS; Cronbach's $\alpha=0.87$), the Success Expectancies Index (SCXI; Cronbach's $\alpha=0.67$), the Self-Esteem Scale (SES; Cronbach's $\alpha=0.81$), and the Propensity for Self-Improvement Scale (PSIS; Cronbach's $\alpha=0.88$). The CSPPS, VAS, and SES were based on Rotter's (1966) Internal-External Locus of Control Scale, DeCharms' (1955) v-Achievement construct, and Rosenberg's (1965) Self-Esteem Scale, respectively.

The SCXI and PSIS were original scales designed specifically for this investigation. Preliminary indications of the convergent validity of the SCXI and the PSIS can be noted in their significant correlations with the CSPPS ($r=0.30; p<.05$ and $r=0.47; p<.01$, respectively).

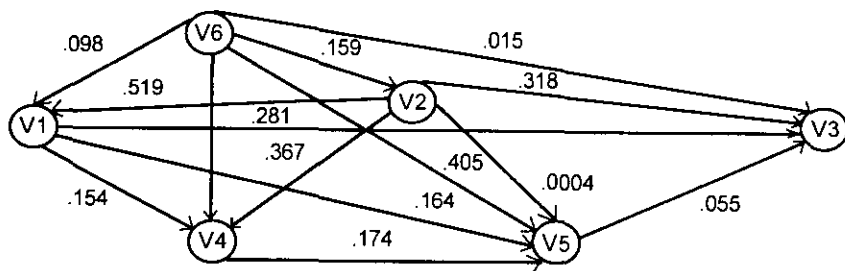
An ordinal scale consisting of different educational levels measured the respondents' educational attainment. A questionnaire in both English and Bicol (native language of the women) contained the scales and indices along with questions on demographic characteristics. Research assistants either self-administered the questionnaires or conducted face-to-face interviews, depending upon the respondent's degree of literacy.

Sampling

Aiming to capture the widest range of socioeconomic conditions possible, I chose the province of Albay among the six constituent provinces of the Bicol Region. This province shows marked differences in poverty incidence (BUDFI 1992). Among 17 towns in Albay, I chose the municipalities of Polangui, Guinobatan, and Camalig. Polangui represented low poverty incidence while Guinobatan and Camalig represented a high degree of poverty (BUDFI 1992).

A multistage sampling strategy generated the sample of 620 women. Initially, barangays (villages) in each of the three municipalities were categorized into low- and high-poverty groups. I randomly selected two villages from each category, making for 12 clusters. Using the most recent roster of qualified voters in each village, I prepared an alphabetical list of 2,322 female residents aged 18 years or older. Applying the interval sampling technique, I selected 51 to 52 names from each cluster, yielding 620 respondents as the sample for the research. Field interviewers conducted house

Figure 1 - The Hypothesized Model (Chi-Square=0.256, df=1, p=0.613)



Legend:

- V1 = Personal Powerlessness
- V2 = Valuation of Achievement
- V3 = Propensity for Self-Improvement
- V4 = Self-Esteem
- V5 = Success Expectancies
- V6 = Educational Attainment

visits to personally obtain the consent of the women to participate in the study.

The respondents' ages ranged from 18 to 72 with an average of 36. Seventy percent were married. Seventy-five percent fell below the poverty line set by the National Economic and Development Authority, the Philippines' economic policy-making agency. A high school education was the modal educational attainment. Ninety-seven percent went through elementary school while 40 percent had some college education.

FINDINGS

Cognitive Profile of Respondents

On the average, the respondents showed self-efficacy rather than personal powerlessness (an average category score of 4.37 out of 5.00 as the most self-efficacious). Respondents indicated strong agreement to these representative statements: "People succeed because of hard work, not because of luck" and "I have the power to change my life for the better." Furthermore, the women demonstrated a strong desire for self-improvement (average score of 4.25 out of 5.00) by expressing agreement to the following typical scale statements: "I owe it to myself to improve my present situation" and "I am willing to devote effort in improving my current conditions." Respondents demonstrated favorable attitudes toward achievement (average score of 4.32) as indicated by strong agreement to the following representative scale items: "I would rather work than remain idle" and "Accomplishments increase my self-respect." An average score of 3.87 indicated a relatively high self-esteem as measured by these two sample scale items:

"I believe I can contribute something valuable to society" and "I feel that I have more strengths than weaknesses." Success expectancies, however, were relatively low (2.02). The majority felt that their situation three years from now would be the same or even worse than the present. The women also expressed pessimism about the outcomes of poverty alleviation programs.

Support for Hypothesized Model

The proposed causal relationships between education and cognitions found support in several statistical indicators. The EQS estimation of the model (Figure 1) yielded an excellent fit indicated by the chi-square probability value of 0.61 (df=1), and a fit index of 1.00.

To better appreciate fitness indicators, a brief introduction to causal models is appropriate. Structural equation models attempt to capture in equation structure some causal process that explains the data, especially the interrelations among variables (Bentler 1992). The adequacy with which a model truly mirrors a causal sequence cannot be done on the basis of empirical results. Instead, a model must be guided by a prior theoretical framework that contains the essential variables of a particular structural system. The model builder must ensure that no key variables are omitted. Attention must also be given to the correct specification of conditions and times of measurement (Gollob, Reichardt 1987). Statistical indicators, such as probability values for chi-square statistics and fit indices, measure how closely a proposed model reproduces the observed covariances of variables. A good model results in probability value that exceeds the

Table 1: Decomposition of Effects

Predictors	Dependent Variable: Motivation for Self-Improvement Effects		
	Direct	Indirect	Total
Achievement valuation	.319	.165	.484
Self-Efficacy	.282	.015	.297
Educational attainment	.015	.127	.142
Success expectancies	.062	.000	.062

standard 0.05 cutoff probability used for model rejection. For instance, a probability less than 0.001 indicates that if the model were correct in the population, then sample data obtained in a study would be extremely unlikely to be observed (Bentler 1992). Fit indices close to 1.00 also indicate a good fit.

It must be pointed out that the negative impact of the respondents' low success expectancies on the motivation for self-improvement was outweighed by the greater magnitude of effects produced by self-efficacy, achievement valuation, and educational attainment (Table 1) as revealed by decomposition of effects analysis.

In decomposition analysis, a variable can have both direct and indirect effects. For instance, in Figure 1, V2 has direct and indirect effects on V3. The magnitude of the direct effect is simply 0.318. Total indirect effects summarize how one variable influences another regardless of the particular paths chosen to trace from one variable to another (Bentler 1992). The indirect effect is given by the product of the standardized coefficients represented by the arrows. Thus, the total indirect effects of V2 on V3 is computed through the following paths: V2 via V5 (.0004 x .055 = .000022); V2 via V1, V4, and V5 (.519 x .154 x .174 x .055 = .00076); and V2 via V4 and V5 (.367 x .174 x .055 = .0035). The total indirect effect is .004282 (that is, the sum of .000022, .00076, and .0035).

DISCUSSION

This study demonstrated the positive effects resulting from Filipino women's high regard for education. Like most Filipinos, Bicolanas view education as the "royal road" to upward social mobility. Poor parents, in particular, consider education as the only legacy they can leave their children. Hence, poor parents forego luxuries and engage in backbreaking labor in order to invest in their

children's education. Such efforts, this investigation revealed, have not been in vain. Forty percent of the respondents went to college. An impressive 97 percent had at least an elementary education. Further, 94 percent possessed knowledge of different crafts and marketable skills.

The Bicolanas' noteworthy educational achievements have resulted in strong perceptions of self-efficacy or personal control. This finding is significant because it contradicts the well-established link between poverty and powerlessness (Lefcourt 1976; Lewis 1959). Apparently, the relatively high educational attainment of the respondents served to negate the powerlessness experienced by people who live in adverse daily circumstances. The respondents have lent further credence to the adage that knowledge is power. As educators have always believed, learning makes people "masters of their own destiny" (Coady 1950). Indeed, even if people choose to control their environment or even if others grant them control, individuals cannot experience mastery if they lack the skills and knowledge required in a given situation. As Ferguson and Johnson (1990) noted, choice without knowledge, information, or consciousness is not really choice.

Aside from enhancing self-efficacy, education has developed favorable attitudes toward achievement among the respondents. This finding supports the argument that education provides drive, direction, and purpose (Livingstone 1945). Education, indeed, produces "makers" who think of life "as something to be created by their efforts" (Vann 1948).

Equipped with a perception of personal control and positive definitions of achievement, the Filipino women in this study showed high self-esteem. This result corroborates studies demonstrating the maximization of affective reactions among achievement-oriented people (Fish, Karabenick 1971) and those who believe that outcomes are attributed to controllable factors (Beckman 1970; Kaufman 1989). On the other hand, powerless individuals are burdened by a belief that they are helpless victims of fate. Therefore, they feel useless and develop a shaky confidence in their abilities (Ferguson, Johnson 1990).

Consistent with the hypothesized sequelae, findings further demonstrated that high self-esteem leads to high success expectancies. Success expectancies rise when outcomes

are seen as responsive to manipulation. Conversely, if a successful outcome is attributed to an uncontrollable external element such as luck, success expectancies fall because of expected randomness and uncertainty (Phares 1957; Rotter 1966).

Success expectancies, in turn, determine the motivation for self-improvement. Persons with high success expectations undertake self-improvement efforts vigorously (Taylor 1989). Optimism, when combined with personal control, enables people to attempt tasks they might otherwise avoid and motivates them to persist at these tasks (Seligman 1991). This combination of constructive cognitions also heightens the resolve to improve one's life by acting on the environment (Seeman 1972). On the other hand, the pessimistic and the powerless face obstacles and challenges with negative self-talk, decreased effort, and haphazard planning (Marone 1992).

The positive portrait of the Bicolanas' perceptions constructed thus far should be tempered by the observation that the Bicolanas reported low success expectancies. This finding contradicts what might have been predicted by the proposed model. As hypothesized, the respondents' self-efficacy, high educational attainment, high achievement valuation, and high self-esteem should have raised the women's average success expectancies level. However, it must be recalled that the women were overwhelmingly of a low socioeconomic status. This relationship corroborates observations of pervasive cynicism and hopelessness common among the poor (Lewis 1959; Gonzalez 1977). Moreover, the respondents' pessimism could be symptomatic of a highly educated group's unfulfilled dreams and potentials. Recall that while the average educational attainment of the women was a high school diploma and that 40 percent of them went to college, only 25 percent made it above the poverty line. This finding brings to mind Licuanan's (1991) observation that the Filipinas' achievements in education have not been effectively translated into economic advantages.

While the women's success expectations were low, their motivation for self-improvement was not adversely affected because of the stronger compensatory influences of high educational attainment, favorable attitudes toward achievement, and self-efficacy (Table 1). The strong desire for self-improvement was explicitly manifested in 90 percent of the

women stating that they read frequently and monitored self-help programs over the radio or television. Eighty percent expressed their willingness to participate in skills training programs and seminars designed to enhance their present capabilities. About 60 percent signified their intentions to pursue further formal education. These observations suggest the survival mechanisms of a subordinated group. Confronted by hostile structural and natural forces, Bicolanas have maintained a belief in self-efficacy which is largely reinforced by impressive educational accomplishments.

IMPLICATIONS

Encouraging educational ambition among young Filipino women must continue to be a key strategy in poverty alleviation. The pursuit of education fends off apathy and powerlessness among the poor who might look at life in this manner:

To me, one's destiny is controlled by a mysterious hand that moves all things. Only for the select do things turn out as planned; to those of us who are born to be *tamale* eaters, heaven sends only *tamales*. We plan and plan and some little thing happens to wash it all away (Lewis 1959).

The educated individual, in contrast, will respond to the vagaries of existence with positive self-talk, greater optimism, self-confidence, and persistence even in the face of repeated failures (Phares 1957; Rotter 1966). A positive mindset and tenacity are necessary for women situated in cultures where sexism and discrimination continue to deny women their rightful place in society. Filipino women, for instance, will have to contend with the push-and-pull forces in a society which encourages women's accomplishments but imposes limits if such achievements threaten the status quo (Licuanan 1991; Blanc-Szanton 1990).

Moreover, the constructive cognitions that result from education will be critical factors in the success of continuing education programs. Without positive attitudes toward achievement, feelings of personal control, high self-esteem, and high success expectations, women may not be motivated to pursue lifelong educational opportunities. Even granting the possibility that an unmotivated and pessimistic woman will initially participate in a skills training program, she is not likely to persist at

learning new competencies (Seligman 1991). Thus, adult education programs which do not emphasize the cognitive readiness of participants are likely to be exercises in futility. Paradoxically, however, in a society where poverty constantly threatens the dignity and sanity of its constituents, avenues for continuing education remain a viable mechanism for survival.

*ACKNOWLEDGEMENT

This study was funded by the Society for the Psychological Study of Social Issues and the Ohio State University Graduate Student Alumni Research Awards.

REFERENCES

- Abramson L, MEP Seligman, JD Teasdale 1978 Learned helplessness in humans: critique and reformulation *J Abnormal Psychol* 87 49-74
- Aguilar D 1987 Women in the political economy of the Philippines *Alternatives* 12 511-526
- Atkinson JW 1964 *An Introduction To Motivation* Princeton: Van Nostrand
- Beckman LJ 1970 Effects of students' performance on teachers' and observers' attributions of causality *J Educational Psychology* 61 76-82
- Bentler PM 1992 EQS: *Structural Equations Program Manual* Los Angeles: BMDP Statistical Software
- Bicol University Development Foundation, Inc. (BUDFI) 1992 Status report on the review and re-evaluation of Western Albay reforestation project. Unpublished manuscript. Legazpi City, Philippines: Bicol University
- Blanc-Szanton C 1990 Collision of cultures: historical reformulations of gender in lowland Visayas, Philippines. Pp 345-383 in JM Atkinson, S Errington eds *Power and Difference: Gender in Island Southeast Asia* Stanford, CA: Stanford U Press
- Coady MM 1950 *Adult Education in Canada* Toronto: Canadian Association for Adult Education
- DeChamps R 1955 Behavioral correlates of directly and indirectly measured achievement motivation. In D. McClelland eds *Studies in Motivation* NY: Appleton Century Crofts
- Feather N 1966 The study of persistence. Pp. 49-74 in J Atkinson, N Feather eds *A Theory of Achievement Motivation* NY: Wiley
- Ferguson T, K Johnson 1990 *Trusting Ourselves: the Sourcebook on Psychology for Women* NY: Atlantic Monthly
- Fish B, SA Karabenick 1971 Relationships between self-esteem and locus of control *Psychological Reports* 29 784
- Fox R 1965 Men and women in the Philippines. Pp. 342-352 in BE Ward ed *Women in the New Asia* NY: UNESCO
- Gardner RW, PS Holzman, GS Klein, H Linton, DP Spence 1959 Cognitive control *Psychological Issues* 1 4
- Gollob HF, CS Reichardt 1987 Taking account of time lags in causal models *Child Development* 58 80-92
- Gonzalez AMD 1977 Filipino women in development *Philippine Social Rev* 25 97-104
- Jessor R, TD Graves, RC Hanson, S Jessor 1968 *Society, Personality and Development Behavior* NY: Holt, Rinehart & Winston
- Kaufman G 1989 *The Psychology of Shame: Theory and Treatment of Shame-Based Syndromes* NY: Springer Publishing Company
- Lanzetta JT, TE Hannah 1969 Reinforcing behavior of 'naive' trainers *J Personality Social Psychology* 11 245-252
- Lefcourt HM 1976 *Locus of Control: Current Trends in Theory and Research* NJ: Lawrence Erlbaum
- Lewis O 1959 *Five Families* NY: Basic Books
- Licuanan PB 1991 A situational analysis of women in the Philippines. Pp. 15-25 in *Gender Analysis and Planning* Quezon City, Philippines: Institute of Philippine Culture
- Livingstone R 1945 *On Education* NY: Macmillan
- Marone N 1992 *Women & Risk* NY: St. Martin's Press
- Mercado MA 1966 *The Bicolana Graphic* Sept 28 29-31
- Mirowsky J, C Ross 1983 Paranoia and the structure of powerlessness *Amer Sociol Rev* 48 228-239
- National Economic and Development Authority 1990 Government publication. Regional Office No. 5: Legazpi, Philippines
- Phares EJ 1957 Expectancy changes in skill and chance situations *J Abnormal Social Psychology* 54 339-342
- Polotan K 1967 *The Bicolana Philippine Free Press* 2 Jan 14 57-58
- Rodriguez LL 1990 Patriarchy and women's subordination in the Philippines *Rev Women's Studies* 1 15-25
- Rosenberg M 1965 *Society and the Adolescent Self-Image* Princeton, NJ: Princeton U Press
- Rotter JB 1966 Generalized expectancies for internal versus external control of reinforcement *Psychological Monographs* 80 1 (Whole No. 609) 1-28
- Seeman M 1983 Alienation motifs in contemporary theorizing: the hidden continuity of the classic themes *Social Psychology Qrtly* 46 3, 171-184
- _____ 1972 Social learning theory and the theory of mass society. Pp. 395-404 in JB Rotter et al eds *Applications of a Social Learning Theory of Personality* NY: Holt, Rinehart & Winston
- Seligman MEP 1991 *Learned Optimism* NY: MacMillan
- Sobnitchea CI 1990 The ideology of female domesticity: its impact on the status of Filipino women *Rev Gender Studies* 1 26-41
- Taylor SE 1989 *Positive Illusions: Creative Self-Deception and the Healthy Mind* NY: Basic Books, 21
- Vann B 1948 *Awake in Heaven* (excerpt), Page 104 in LM Savary, TJ O'Connor eds *The Heart Has Its Seasons* 1971 NY: Regina Press
- Weiner B 1972 *Theories of Motivation: From Mechanism to Cognition* Chicago: Rand McNally
- Weiner B, A Kuklia 1970 An attribution analysis of achievement motivation *J Personality Social Psychology* 151-20