MISLP Research Report for

Research Trip to New Delhi, India

An Explorative Study on Reinforcement Strategies

and Effectiveness of Civic Engagement Policies in Bhagat Phool Singh

Women's University, Sonepat, India

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24th September, 2014

Abstract:

An initial model was derived from the established theory of reinforcement contingencies to test the effect of successful manipulation of reinforcement strategies on promoting civic engagement in the context of higher educational institution. Two professors from Bhagat Phool Singh Women's University and one local government officer from Sonepat were interviewed and the opinions of students, teaching staff and local community members towards the civic engagement policies set in the university were discussed. Results indicated that the operant conditioning theory was applicable to explaining the policy rationales and predicting the outcome of the policies inquired. However, social response was proven to be a significant factor affecting the effectiveness of the policies. Further studies could be designed to integrate the social factor into the theoretical model proposed in this paper.

Introduction:

A commencing research[1] in the Society of Participatory Research in Asia (PRIA) was attempting to categorize and eventually evaluate different forms of civic engagement policies in various local educational institutions. Whilst the categorization was taking place, a 'holistic' evaluation mechanism could be developed to contribute to the success of the research. And this research was designed to facilitate the PRIA research by introducing a microscopic and psychological aspect to its evaluation model.

As a developing country, India was on the one hand facing various emerging social problems, such as income disparity and gender inequality. On the other hand, her educational system was developing vibrantly. If educated properly and mobilized successfully, the rising generation would hopefully succeed the local society with more sophisticated knowledge, technology and morality, and thus bring solutions to some existing social problems. The initiative of engaging the educated social groups, particularly the students of higher educational institutions (HEIs), in social development was commonly known as civic engagement (CE).

While the Indian government was planning to design policies in favor of civic engagement activities in the near future, the promotion of CE and community-based research (CBR) was currently administered only at institutional but not national level. Besides, most institutions were just beginning to realize the significance of CE and CBR, and most of the undergoing attempts were only in their beginning stage, which implied that a stable collaboration model between HEIs and society, especially the marginalized communities, was yet to be established.

Regarding the research on civic engagement in India, as the ultimate purpose of CE was to initiate constructive interactions between societies and HEIs, the studying of CE policies would unavoidably involve that of social settings.

One possible approach was to analyze the resource allocation and power distribution models of society. A thorough study on the social stratification of Indian society would indicate the main incentives for HEIs, both the administrators and the students of the institutions, to participate in CE-related activities. Nonetheless, to thoroughly study the relationship between social setting and social members' attitude towards CE, apart from accurately describing the social stratification, researchers must also understand how social members understand their social structure and identify the factors they would consider then deciding whether to participate in a specific CE project.

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[1] Refer to Appendix I.

Therefore, instead of only analyzing how the school authority had made use of the social structure to mobilize different social groups to participate in CE and CBR as if it were a top-down process, evaluating both the policy designers (school administrators) and recipient groups' (students) interpretation for CE policies from a psychological perspective would be a better approach for recognizing the effect good designs of CE policies had on leading students to learn and contribute to their local society.

Bhagat Phool Singh Mahila Vishwavidyalaya (BPS) is a government-funded public university in Sonepat, Hayana. It was recognized by PRIA as one of the most successful HEIs in Northern India in promoting CE in school. Both intensive civic education and appropriate promotional strategies (good policy design) were believed to have contributed to its success. Therefore, it was chosen as the case for this research which aimed to investigate the relationship among social setting, policy setting and social members' physical and psychological response towards opportunities to engage in and contribute to social development.

Objectives:

The main objective of this research was to introduce a microscopic and psychological aspect to the evaluation mechanism of PRIA's CBR research. Three tasks must be completed in order to achieve the objective.

a. To determine whether any psychological model would be applicable to the analysis on civic engagement policies.
b. To identify context-dependent variables which had affected the impact policies have on promoting civic engagement.
c. To explore some principles in which both the influence of policies are accurately assessed and the effect of external factors are considered, and from which the optimal reinforcement strategies which are most effective for promoting civic engagement can be found.

Literature Review:

Foundational Theory and its Basic Application:

Policy-making is often retold in Psychological language as *Conditioning*. Conditioning is "a behavioral process whereby a response becomes more frequent or more predictable in a given environment as a result of reinforcement, with reinforcement typically being a stimulus or reward for a desired response." (Encyclopedia Britannica, 2014) There are several modal theories for conditioning, one of which is the *Operant Conditioning*. Operant Conditioning theory assumes that

the probability of a response can be altered by a change in its consequences. (Gerrig, 2013) In other words, a behavior becomes more probable if its outcome is consistently favorable to the agent. If the outcome is consistently favorable (or unfavorable), the behavior is defined to hold a *reinforcement contingency* with the outcome, as reinforcement contingency is "a consistent relationship between a response and the changes in the environment that it produces." (Gerrig, 2013)

There are four types of reinforcement contingencies: positive reinforcement, negative reinforcement, positive punishment and negative punishment. The differentiation among the four is as shown:

Contingencies	Rationale
Positive reinforcement	A behavior is promoted by the presentation of an appetitive stimulus.
Negative reinforcement	A behavior is promoted by the removal of an aversive stimulus.
Positive punishment	A behavior is discouraged by the imposition of an aversive stimulus.
Negative punishment	A behavior is discouraged by the removal of an appetitive stimulus.

Table 1: Four Reinforcement Contingencies. (Gerrig, 2013)

In short, Operant Conditioning can evaluate the strength and appropriateness of reinforcement strategies under specific circumstances by assessing the behavioral and psychological changes they have induced.

Contingencies	Condition before Action	Condition after Action	Effect of Action	Examples
Positive reinforcement	Neutral	Positive	Encouraging	Mom rewards hardworking child with candy
Negative reinforcement	Negative	Neutral	Encouraging	One fans oneself when feeling hot
Positive punishment	Neutral	Negative	Discouraging	Get burnt by playing with matches
Negative punishment	Positive	Neutral	Discouraging	No dessert for refusing to eat vegetable

Table 2: Reinforcement Contingencies with Examples (Gerrig, 2013)

The model has been applied mostly on clinical psychology researches. In those attempts, reinforcement would be designed and presented by researchers to target groups in laboratory conditions. For instance, the tendency of children imitating violent behavior was measured after they received punishment or reward (Bandura, 1965), and the effect material reward had on AD/HD children's work efficacy was also studied in similar procedure. (Luman, Oosterlaan, & Sergeant, 2005) The experiment framework in these researches can be visualized as below:

Reinforcement $\xrightarrow{\text{Provides incentives for}}$ Policy Audience's Behavioral Change

$\xrightarrow{\hspace{2cm}}$: Policy Audience's Considerations
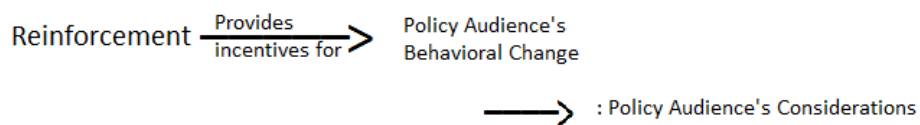
Chart 3: Basic Laboratory Application of Reinforcement Contingency Theory

Applicability of Reinforcement Contingency Theory in the Context of Policy-making:

As policy can be seen as an administrative means to encourage or discourage certain behavior, the reinforcement-contingency model might be applied to assessing the effectiveness of some policies.

In fact, there are existing researches which have applied the constructs in Operant Conditioning and reinforcement contingencies to modify individual and social behavior. There are mainly two approaches: designing a new policy in lights of Operant Conditioning and evaluation on cases in which Operant Conditioning is used to alter certain behavior. For example, some sociologists have tried to advocate changes to police practices by applying Operant Conditioning principles (Levine, 1971). Some psychology researchers have also developed and evaluated Operant-conditioning attempts to suppress juvenile delinquent behavior (Burchard and Tyler, 1964) and train parents of brain-injured children. (Salzinger, 1970)

Instead of administrative issues like policy-setting, the Operant Conditioning model has been more frequently applied on educational issues like behavioral therapy. However, it is still fairly feasible to apply the model on university civic-engagement policies in particular because the objective of such policies is educational in nature. As stated by Michael Higgins, the ninth president of Ireland, universities have the obligation to accumulate knowledge for and provide insight and service to the community. In short, universities are obliged to educate their communities. Therefore, university civic engagement policies have the ultimate goal of civic education.

Another feature of the cases in which the Operant Conditioning model was

applied is that the model was meant to introduce both ideological and behavior changes. Civic engagement policies for university also mean to induce both changes. In addition to the immaterial forms of engagement like educating other social members, university students should also engage in society through action as civic engagement implies activities, interaction and sharing (Mcllrath, 2014). Given the essential similarities between the reinforcement contingency model the rationale of civic engagement policy-making, the model is theoretically applicable in the civic engagement context.

However, unlike the laboratory application of the model, the policy-designers may not be part of the researcher team and they in such cases would become part of the study subject. Therefore, the policy designers' original intention of designing the policies and their mechanism for evaluating the policies should also be taken into account. Thus, the application model can be further developed:
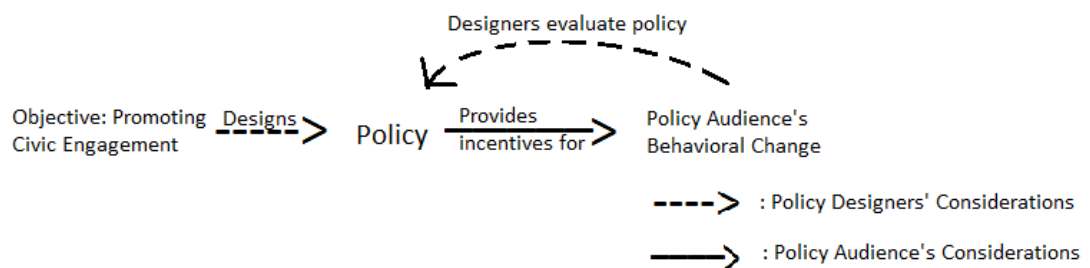

Chart 4: Application Model for Studying Both Policy Designers and Audience

Significance of Extrinsic Motivations:

Nonetheless, there might be other undermined factors than reinforcement contingencies which also affect the audience' response for policies. One significant source of variance is identified as extrinsic motivations.

Apart from positive-negative classification, reinforcements can also be classified as intrinsic or extrinsic. Intrinsic motivations are values which are inherited in the behavior itself, while extrinsic motivations are independent from the behavior. (Staw, 1989) In this study, intrinsic motivations are defined as those produced by the ppolicies directly, while extrinsic motivations are defined as the existing incentives that have been influencing people to, or not to, participate in civic engagement activities irrespective of whether encouraging policies are introduced or not. Some researchers suggest that intrinsic motivations are always vital while the significance of extrinsic ones varies across the autonomy of the agents. (Ryan & Deci, 2000) And since individual autonomy is often suppressed in certain societies and cultures (Chirkov, 2009), the impact difference between intrinsic and extrinsic motivations may also vary across cultures.

The research framework should therefore be further expanded to consider
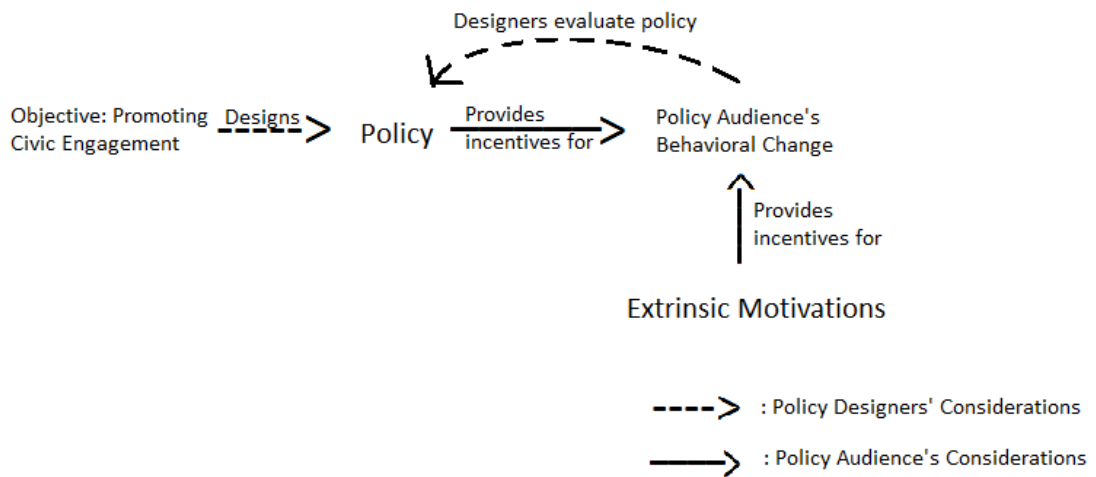
latent extrinsic motivations.

Chart 5: Further Refined Framework with Respect to Extrinsic Motivations

Finalization of Theoretical Framework:

Last of all, the policy audience and designers' mutual understanding of each other's mindset or rationale might influence the effectiveness of civic engagement policies. Therefore, the research framework should also consider the policy designers' anticipation of the audience's response, as well as the audience's understanding of the designers' rationale in the policies they designed.

The interaction model can also be divided into five stages, namely design, perception, evaluation, consideration and response. The policy designer customizes a policy to fulfill the objective in the stage of design. In the stage of perception, the audience would identify the response favored by the policy and the initiative the policy had provided for making the favored response. The policy designers would also anticipate how the audience would perceive their policies when designing the policies. In the evaluation stage, both the designers and the audience of policies would assess whether the intrinsic incentive provided by the policies was sufficient to promote the favored response. The stage of consideration is the phase when audience takes extrinsic motivations into account before responding to the policy in the last stage of response, in which the policy designers would also observe whether the response made by the audience answered to the initial objective of the policies.

In conclusion, the overall theoretical framework of the research shall cover the identification of reinforcement-contingency type, interpretation of policies, intrinsic and extrinsic motivations to comply with policies, as well as actual behavioral adaptation to policies. The research framework is thus finalized as below:
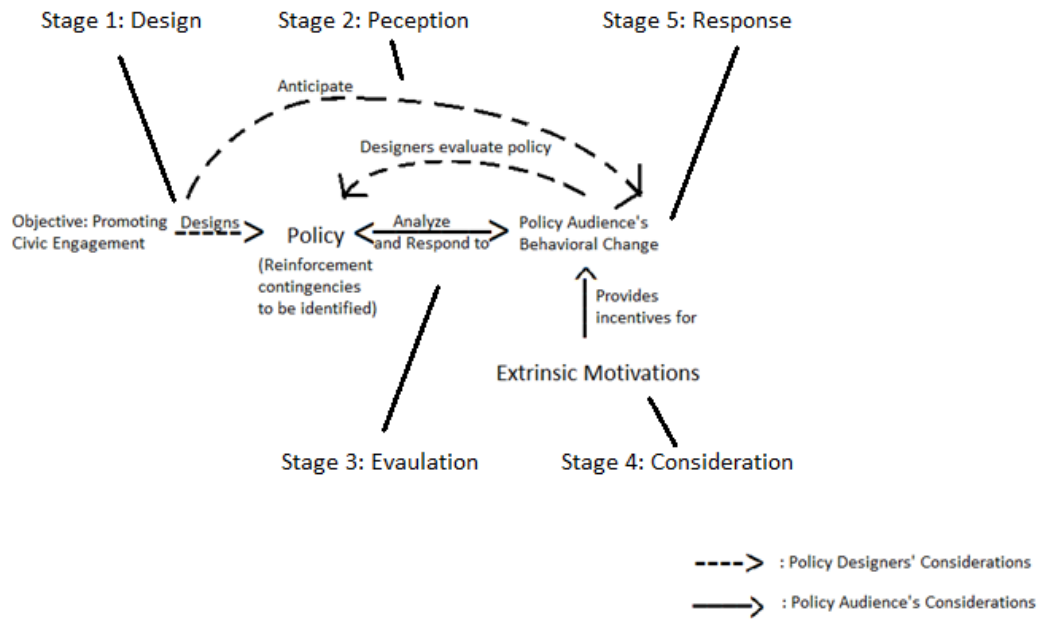
Chart 6: Finalized Framework[2]

Methodology:

Two qualitative interviews were conducted to collect primary data for this research. The two interviews were conducted on 18th June, 2014. A total of three individuals, Dr. P. Mittal, the former vice chancellor of BPS, Dr. R. R. Singh, the former director of the social work department of BPS and a local government officer,[34] were involved in the interviews. The first interview was a group discussion among the three interviewees and two researchers, Ms. Wafa Singh from PRIA and I, held in the office of the Vice Chancellor of BPS. The main purpose of the interview was to understand the policies related to the three featured CBR projects from the policy-designers' perspective. The second interview was an individual interview with Dr. Singh at the reception area of the vice chancellor office. That interview was purposed for understanding the teaching staff's interpretation for the CE policies. Since the teachers were both monitoring the students and being monitored by the school authority to comply the CE policies, their perspective would cover views from both the commanding and receiving sides of the policies.

Both interviews were semi-structured. Information was collected in nine focus

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[2] 'Analyze' in the framework involves both the perception (stage 2) and the evaluation (stage 3) of the policy incentive.

[3] Both Dr. Mittal and Dr. Singh were still on their respective positions (as vice chancellor and department director) at the time of interview.

[4] The name of the government officer was unknown because she was invited to the interview by Dr. Mittal as a personal acquaintance instead of appointed by researchers.

areas as listed in the protocol below:

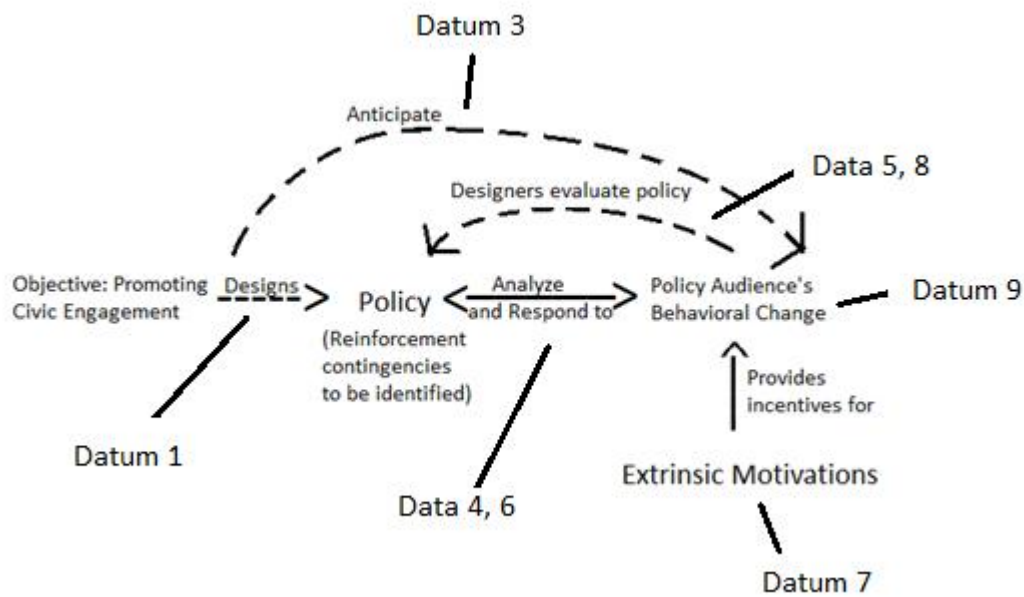| Interaction Stages	Design	Perception	Evaluation	Extrinsic Motivation	Response
Designer's Aspect	1	3	5	N/A	8
Recipient's Aspect	2	4	6	7	9

Table 7a: Interview Protocol

Chart 7b: Derivation of Protocol and Focus Areas from Theoretical Framework

Areas 2 was not in the framework because the information was only collected for its comparison with area 1. The comparison would indicate whether mutual understanding of mindset between the two stakeholder parties had enhanced the effectiveness of the policies. (See discussion point 3)

Apart from formal interviews, some field observation was also made to complete the researchers' understanding of the Indian social context. Observation was made with regard to the major social concerns of different local social groups and the stratification in society and marginalization of some social groups. The observation was made on various occasions, including a study of maps and infrastructures of Sonepat, a university ranking conference held by British Council and Reuters in Delhi and some casual discussions with local people (mainly ladies and male drivers). Important information about the following items was reported by the local people during the interaction:

- Geographical and occupational mobility in India

- Gender stereotype
- Local citizens' perception of their own social role

Findings:

The findings of the research are presented in ten categories including the nine areas stated in the theoretical framework table (Table 6) and other observations not covered in the original nine areas.

Dr. Mittal was in charge of designing all CE policies in BPS. She had given detailed explanation for several existing CE policies with regard to their design rationale and expected outcomes (DU, DR, DI, DB).

Dr. Singh was the main administrator most of the CE policies. He described how the staff (including his colleagues and himself) had interpreted and reacted towards those policies. (AU, AR, AI, AE, AB)

The government officer presented some supplementary information about the Indian government's and local households' considerations regarding promoting CE on a national scale.

Policies in BPS:

There are policies and requirements set for both students and professors in the university. As required by the university (Dr. Mittal), every course must include a civic engagement project in its syllabus. The course instructor would be in charge of devising the CE project. While participation in CE is part of the graduation requirement of all students, academic credits would be awarded to students who participate in those activities proactively and voluntarily.

Dr. Mittal believed that academic credit would be a significant incentive to attract students to participate in CE activities. And although there was no fixed reward or punishment for teachers who performed well or poorly in devising CE projects for their courses, since they acknowledged that would be part of their job duty when being employed, Dr. Mittal was confident that teachers would honor the agreement.

Stakeholders' General Understanding and Opinion about the Policies:

As the policy designer, Dr. Mittal identified academic credits as a positive reinforcement to encourage students to participate in CE projects. However, she failed to identify the reinforcement strategy employed in requiring teachers to devise CE projects for their course. She believed that it was a mutual agreement and did not involve any incentives. She anticipated that students would consider the academic credits awarded for their engagement in society as academic recognition for their

contribution to society and that the staff would agree that initiating CE projects was the mission of teachers at BPS. In short, she generally believed that the incentives provided by the policies were sufficient for encouraging the school to participate in civic engagement activities.

As for Dr. Singh, together with other teachers at the receiving end of the policy he observed that the teachers were fully aware of the potential consequence of failing to devise CE projects for their courses, i.e. termination of employment contract. In other words, they considered their involvement in CE as a criterion of their performance appraisal. And thus, they regarded the requirement as a negative reinforcement. Given the facts that the competition for teaching vacancies in universities in India was fierce and that teachers reckoned organizing CE projects for their students a prerequisite for contract renewal, such requirement by the school produced a significant effect as a negative reinforcement.

Since the school was closed in June, students' interpretation for the credit-awarding system was unknown. Nonetheless, as reported by Dr. Singh, students at BPS were not particularly motivated by the credit award. But they acknowledged that participation in CE was a requirement by the school.

Extrinsic Motivations Involved and the Stakeholders' Observation for the Actual Behavioral Change Induced by the Policies:

Both Dr. Mittal and Dr. Singh agreed that one of the major purposes for Indian young adults to attend universities was to learn how to enhance the quality of their future life. And as students knew they would generate and trial solutions to some problems in local communities in those CE projects, they were willing to join those programs to gain experience and knowledge for tackling their own life problems in the future.

Besides, Dr. Singh emphasized that some teachers found leading students to serve the community meaningful. In conclusion, the general morality shared by the university members approved civic engagement.

As for the behavioral changes, Dr. Mittal had observed active and positive responses from both teachers and students towards the CE policies. Dr. Singh confirmed that observation as he reported that all teachers had observed the policies and organized CE programs for their courses.

Nonetheless, Dr. Mittal and Dr. Singh discussed several existing CE programs with the researchers during the interview[5], which was a sufficient proof for the

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[5] Four projects were discussed. They were about producing fuel from domestic waste, inventing laundry machines, making record and chemical analysis of folk medicine and teaching community members some financial management skills.

actual physical impact the policies had made on students and teachers.

However, since the policies had been in effect for only 2 years, the observable behavioral change was minimal. Nonetheless, Dr. Mittal was confident in the long term impact of the current policies.

Other Significant Observations:

Sonepat was a rural agricultural area with comparatively underdeveloped infrastructure. The roads were incomplete and the map failed to provide details for the researchers to reach BPS.[6] The poor infrastructure and lack of map indicated a low geographical mobility in Sonepat as local residents were unlikely to be able to leave Sonepat to find jobs while people outside Sonepat would not be interested in entering Sonepat to look for jobs either.

Besides, both students and professors at BPS enjoyed low occupational mobility. BPS was a women university. And as reported by local ladies, Indian women enjoyed a low degree of occupational mobility and career freedom. The Indian society expected young ladies to get married and settled as housewives. Even if the ladies would like to work, local men tended to marry female teachers only. In other words, most graduates from BPS could only choose an occupation between housewife and teacher. And as claimed by Dr. Singh, there was an excess supply of labor for most occupations in India, including professors. Besides, it was difficult for professors to switch to a non-academic job as employers normally did not prefer applicants with an unnecessarily high academic qualification.

Discussion:

1: The reinforcement contingency model was generally applicable to studying civic engagement policies.

The reinforcement contingency model is theoretically applicable to analyzing CE policies in BPS as concluded in the literature review. In addition, it is also practically applicable as the policy designers and audience have shown basic understanding of the policy rationales and are able to identify the intended outcome correctly. They also acknowledge the correlation between the rationales and the intended outcomes of the policies. Most importantly, the way in which the interviewees analyze and comment on the policies was consistent with that portrayed by the reinforcement contingency model.

2: The social context has a significant effect on school members' participating in civic engagement activities besides the incentives provided by the policies.

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[6] For the map of Sonepat, refer to Appendix 2.

Results of the interview indicated that for BPS students were experiencing a more intense extrinsic motivation than intrinsic motivation regarding their choice of participation in CE projects while professors were experiencing a strong intrinsic motivation. This may be due to the fact that students were more affected by the local social context of Sonepat than the professors.

Students are destined to live and contribute to Sonepat after graduation due to the low geographical mobility they enjoy. Having witnessed so many obvious social problems in Sonepat which may obstruct them from securing their fundamental needs in the future, students in BPS have a very strong incentive to acquire the skills and knowledge to analyze and formulate solutions to those problems. This incentive is much stronger than the one given by academic credits.

For professors, although they have low occupational mobility, they do not suffer from low geographical mobility as in the case of the students. While tackling local social problems does not benefit themselves much, they observe school policies more readily as they have to keep their jobs.

Nonetheless, the intrinsic motivations as reported by the teachers were stronger than expected. This indicates that the staff in BPS responded to CE policies readily and autonomously.

In conclusion, results have indicated that social context influences greatly the intensity of extrinsic motivations in CE policies. More social problems and more thorough social perception make social members with a higher civic awareness and sense of social involvement more likely to participate in CE independently from the incentives given by the policies.

3: The optimal reinforcement strategies can be identified by assessing the levels of civic awareness and community involvement of society.

The results generally imply that the success of CE policies is mostly related to civic awareness of social members and collision of interests between social groups. Nonetheless, choosing the correct reinforcement contingency compliments the effect of successful policies.

From the conclusion in the above section, the level of civic awareness and sense of involvement in society of social members influence their willingness to participate in CE activities greatly. In the case of BPS, students have demonstrated a higher level of social involvement than their teachers, and are therefore more motivated to contribute to society without the influence of encouraging policies. Academic credits and other positive reinforcements alike will give involved social groups complimentary incentives to contribute to society. On the contrary, mobilizing social groups with a lower civic awareness or sense of social involvement would require a

stronger incentive from policies. Research results indicate that negative reinforcement has successfully provided an incentive to the teachers in BPS, who have moderate civic sense and desire to cooperate with the local community, to engage in the Sonepat community. Punishment may be necessary for mobilizing people with a minimal sense of civic awareness or sense of social involvement.

In the long run, when the majority of Sonepat community members have cultivated a strong civic consciousness, positive reinforcement may become the optimal strategy in promoting civic engagement in Sonepat.

Apart from the sense of social involvement and civic awareness, the combination of interests of the designers and the audience of policies may also affect the decision on reinforcement strategy to apply. In the case of BPS, all students, teachers and the school authority share a common interest of contributing to society. Therefore, integrating encouraging and positive elements into policies can enhance the effectiveness of the policies. If the authority intends to mobilize social groups with which it does not share any common interest, it may have to force them to cooperate by introducing policies with potential punishment.

4: Difference in understanding of policies between policy designers and audience seems to have minimal effect on the effectiveness of policies.

Although the professors at BPS interpreted the CE policies in a different way from the policy designer, they still observed the policies in the same way as expected by policy designer. Therefore, in the case of BPS, the success of the policies was not due to the policy designer's understanding of the mindset of the policy audiences. However, the possibility of mutual understanding's enhancing the effectiveness of policies remains unscathed. Further research is needed to confirm or refuse the hypothesis.

Regarding the difference in mindsets between policy designers and audience, such a difference occurs because the foci of the two parties on the same policy were different. Policy makers tend to induce whether the policies would increase the probability of their targets' making the expected response while the audience tend to deduce whether incoming policies would force them to act differently from they normally did. Such a difference in mindsets has resulted in a phenomenal mismatch between the understanding of the designers and that of the audience.

However, despite the mismatch, the behavioral responses matched due to the appropriate choice of reinforcement contingencies and favorable social context as discussed above.

Limitations of Research

Since schools in India were closed during the period in which the research was conducted, no student was available for interview. The suspension of school also limited the number of staff interviewees available for interview. Nonetheless, the interviewees involved in the interviews all carried representative titles and had sufficient data and knowledge about the questions they answered.

Besides, there were no quantitative evaluative statistics on the effectiveness of CE policies in BPS because such policies were only at the commencing stage. If continuous or even longitudinal research was conducted on BPS, quantitative statistics may be formulated.

Conclusion:

Results have indicated that the reinforcement contingency model is generally applicable to analyzing the civic engagement policies in Bhagat Phool Singh Women's University. The significant correlation between reinforcement strategy and effectiveness of policies also suggests the significance of applying psychological analysis on evaluating social policies. Nonetheless, the results suggest that social members' level of involvement in community has been an influential extrinsic motivation for them to participate in civic engagement projects. The theoretical model can be refined by operationalizing and integrating that factor.

Further research can be conducted to investigate the causal relationship between reinforcement schedule and policy effect. Interregional studies can also be initiated to evaluate the significance of the social factors, i.e. civic awareness of social members and collision of interests among social groups, on the effectiveness of civic engagement policies in various communities and countries.

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