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The Policy Need for Behavioral Analyses: Theory, Methods, and Nudges

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ABSTRACT

Globally, public policy debates are focusing the need for behavioral analyses; specifically, the behavioral assessments and evaluations of already-intervened socioeconomic policies, the critical behavioral appraisals of policies before implementation, and testing of behavioral policy research methods and instruments. In Pakistan, these evaluations and assessments are significantly missing from policy formation and implementation processes, which is why the current research has been designed with the intent of theoretical, methodological, and pragmatic significance of aligning policy with behavioral evidence. There are three inter-related sections of the paper; first reviews the theoretical articulation of policy-evidence relationship, second focuses on the nudges needed for behavioral change which can be of use for policy adherence along with global and local case studies as pragmatic examples and the third highlights the methods derived from behavioral, sociological, and anthropological fields of inquiry which are of use for behavioral assessments. The sections cover the theoretical, pragmatic, and methodological components to pin down the fact for evidence-based policy solutions, theory-methods-action nexus needs strengthening. The final section concludes with a few recommendations.

Keywords: Behaviors, Nudge, and Policy.

1. Introduction

Traditional public policy in Pakistan has largely been informed by rational choice theory, which assumes that individuals respond predictably to incentives, possess complete information, and make utility maximizing decisions. This orientation, rooted in neoclassical economic thought, is reflected in policy instruments such as taxation, subsidies, and pricing reforms, particularly in sectors like energy, fiscal policy, and social protection, where behavioral responses are typically expected to align with financial incentives (Lemieux, 2004; Khawaja, et al. 2023).However, there are persistent gaps between policy design and policy outcomes (Strassheim, 2021) e.g low tax compliance rates, weak take-up of social protection services and low citizen engagement suggest that these assumptions often fail to hold in real-world contexts. By acknowledging that human behavior is consistently impacted by cognitive constraints, emotions, social norms, and institutional trust, behavioral public policy challenges this traditional view (Strassheim, 2021). Shafir (2013, p.3) argues that public intervention aren't merely technical solutions but are created to assist in changing behavior by enabling various forms of change. In context where there are asymmetries of information, administrative, complexity and little trust in public institutions (characteristics of much of Pakistan's socio-economic environment), behavioral insight exist as a more practical means of creating metrics to evaluate the success of policy.

Policy makers are attempting to implement new policies in order to achieve desired social/economic results (Shafir, 2013). A policymaker believes a policy response is their preferred method for addressing a given socio-economic issue; therefore, they will work towards creating conditions for a policy to be able to produce results and/or cause all inputs (e.g. funding and/or resources) to be converted into outcomes (fundraising leads to support for policies). In general, however, when the policy is applied, it does so in nonlinear ways; more accurately defined as a search and find process where problems will be solved. Policymakers rely heavily on their context and past experience to develop solutions for human behaviour (Bardach, 2006).The efficacy of behavioral and action oriented policymaking is contingent upon the dynamics that transpire within this so-called "black box" situated between policy formulation and policy outcomes (Astbury & Leeuw, 2010). This black box is predominantly shaped by the ways in which citizens perceive, react to, and engage with policy signals. Given that behaviors serve as the immediate determinants of mechanisms of change, the success of policies is fundamentally reliant upon the choices made by individuals and small groups within authentic contextual environments.

1.1. Classical Theory: Limits of Rational Choice in Explaining Policy Outcomes

Public policy research has often relied on a rational choice model based on the notion that there exist stable preferences that will dictate how individuals act. Individuals are predicted to act in ways that maximize their own utility and use thought through careful planning and decision-making processes (Amadae, 2007). Thus, it is assumed that there is a direct correspondence between a specific policy tool and the expected outcome due to the predictable nature of human behavior (e.g., incentive, punishments, education). However, studies conducted in the field of cognitive psychology show that in real life, individuals do not always act in accordance with what rational choice theory would suggest (Kahneman, 2013). Cognitive limitations create a need for individuals to use heuristics and rules of thumb. Additionally, how individuals frame information, emotions they experience, social pressures they face, and trust/knowledge in institutions, all play

contributing factors in their decision making process. In some instances, individuals do not reveal their preferences as stable points of reference used to guide their behavior but create their choices based on the information available to them when they make those choices (Sunstein, 2000). The ability of rational choice frameworks to clarify outcomes is significantly limited in nations like Pakistan, where people face issues like lack of information, complex bureaucracy, time constraints, and a lower degree of faith in governmental bodies. This situation underscores a valid justification for the execution of a behavioral strategy that more precisely conveys the true mechanisms of decision-making.

1.2. From Evidence Based to Behaviorally Informed Policy

Applied behavioral science has emerged as a key player in public policy discussions, largely due to the acknowledgment of the natural constraints tied to models of rational decision making (Kahneman, 2013a). This methodology combines insights from behavioral economics, cognitive psychology, sociology, and legal studies to better formulate and implement public policies. This shift has been established in many countries by introducing public programmees that consider behavioral research, supported by data derived from experiments, pilot initiatives, and assessments of their effects. To efficiently blend behavioral data into the processes of decision-making, various governments, including the United States, the United Kingdom, Denmark, Australia, and many EU member states, have launched dedicated units for behavioral insights. In addition, this practice has attracted notable approval from worldwide organisations including the World Bank and the OECD, which claims that the effectiveness of development programmees is heavily shaped by psychological and societal elements. According to Gopalan & Pirog (2017) within this framework, policy initiatives can be analytically classified as:

- Behaviorally tested: rigorously piloted before scale-up.
- Behaviorally informed: designed using existing behavioral evidence.
- Behaviorally aligned: traditional policies analysed ex-post through a behavioral lens.

This classification is particularly useful for action papers because it enables policymakers to determine where behavioral insights might be gradually incorporated without completely redesigning current policy tools**.**

1.3. Core Theoretical Pillars: Deconstructing Rationality and Mapping Real Behavior

The foundation of the policy behavioral approach consists of many interrelated theoretical pillars, which all work to broaden the rational choice model, and present a more extensive, empirically supported interpretation of human agency.

- Bounded rationality is the Key Pillar of the theory of decisional Science (Simon, 1997). According to Simon (1997), although it is assumed that people should behave rationally and they respond to incentives, their thinking is greatly hindered by restrictions in time, lack of information access, and limited processing power. Consequently, individuals are incapable of achieving optimality. Therefore, we are unable to reach the best decision possible; rather, we make decisions that are "satisfactory" or good enough for the scenario as opposed to being the best possible outcome. Bounded rationality eliminates the

expected overly rational individual and lays the foundation to help understand the helpful mental shortcuts the human brain utilises (Simon, 1997).

- This leads directly to the second pillar: the dual-process theory of thought, according to which we use interchangeably two modes of thinking when making decisions on a daily basis (Kahneman, 2013).
    - System 1 - fast, intuitive, level-one thinking - works automatically, with minimal effort and, basically, without our conscious control. It uses heuristics mental rules of thumb to produce impressions, feelings, and inclinations with ease and continuity. Although it is necessary for getting by in daily life, it is our default mode of functioning and is prone to systematic errors.
    - System 2, in contrast (slow, reflective, higher-level) thinking allows us to make more informed decisions. It is based on critical reasoning, but requires effort and attention and often content to endorse the intuitive suggestions of System 1.
    - For public policy, the critical implication is that the vast majority of citizen interactions with government from look at a tax form to deciding whether to enroll in a retirement plan are governed by the intuitive, heuristic-driven System 1. Policies that ignore this reality, demanding careful System 2 deliberation amidst complexity or time pressure, are destined for poor uptake and compliance (Kahneman, 2013).

- The third pillar details the specific mechanics of System 1: According to Tversky and Kahneman (1974) the heuristics and cognitive biases identified, devoted to the mechanisms of human decision-making in situations of uncertainty. These are not random mistakes but predictable patterns of deviation from rationality. Key among them for policymakers are: status quo bias and default effects, which describe our powerful tendency to stick with pre-selected options or current arrangements, making default settings in programmes like pension enrollment or organ donation extraordinarily powerful; present bias, the tendency to overweight immediate rewards and costs relative to future ones, which explains failures in long-term saving, health prevention, and environmental conservation; loss aversion, the psychological principle that losses loom larger than equivalent gains, meaning the pain of a fine is felt more acutely than the pleasure of a subsidy of equal monetary value; and social proof and normative influence, whereby individuals look to the behavior and approval of others to guide their own actions, making social comparisons a potent policy tool. Understanding these biases allows for a diagnostic approach to policy failure. Rather than attributing low compliance to ignorance or recalcitrance, a behavioral analyst asks: Which specific bias is this policy triggering or failing to account for?

Building on these cognitive foundations, the fourth theoretical pillar is the concept of choice architecture and the associated philosophy of libertarian paternalism (Thaler, et al. 2013). Choice architecture refers to the deliberate design of the context in which people make decisions. Since there is no neutral way to present choices, the order of options, the phrasing of questions, the selection of defaults all exert influence; someone must

inevitably design the choice environment. Libertarian paternalism argues that it is both legitimate and desirable for choice architects (e.g., policymakers) to steer individuals toward choices that will improve their lives as judged by themselves, while preserving their freedom to choose otherwise. This steering is achieved through nudges subtle changes to the choice architecture that alter behavior in predictable ways without forbidding options or significantly changing economic incentives. A nudge makes the beneficial choice easier, more salient, or more socially apparent. It respects liberty by keeping all options available but acknowledges the reality of bounded rationality by designing for the human as it is (Sunstein, 2000).

1.4. From Theory to Practice: Operationalising Behavioral Insights in the Policy Cycle

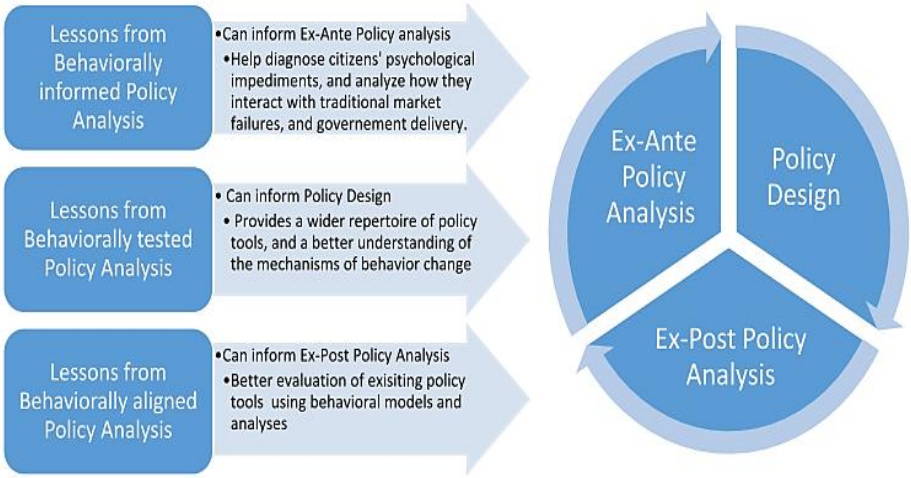

Figure 2. Framework for Applying Behavioral Insights in Policy Analysis and Policy Design.

Source: Gopalan & Pirog (2017).

This theoretical framework is not merely descriptive; it provides a structured methodology for the entire policy process. The first step is behavioral diagnosis. Before designing a solution, policymakers must map the citizen's decision-making journey related to the policy issue. This involves identifying the specific "friction points" where cognitive overload, biased thinking, or poor choice architecture leads to the undesirable outcome. The core question evolves from "What should people do?" to "Given how their minds work, what is preventing them from doing it?" This diagnostic phase leverages the theoretical understanding of heuristics and biases to dissect the problem at a granular, psychological level.

Following diagnosis, behavioral theory offers structured frameworks for intervention design**.** The word “nudge” is an acronym for the main rules governing behavioral measures in public regulations (Thaler, et al. 2013). It is a simple set of rules (Thaler, et al. 2010). The NUDGE framework provides an actionable checklist:

- iNcentives: Create a system of incentives;
- Understand choice mapping: Understand the choice process;

- Defaults matter: Bear in mind the importance of indolence and negligence (we tend to minimize efforts, choose the path of the least resistance, and apply solutions that are most readily available and "pre-installed", and therefore "default settings" are of key importance);
- Give feedback: Help people understand by providing them with feedback information, warn against potential failures, praise for successes;
- Expect error: Remember that people make mistakes – an efficient system takes it into account and minimizes the negative consequences of such errors;
- Structure complex choices: Remember that if more options are available, the choice becomes more problematic. Try to simplify the possibilities instead of multiplying options.

The MINDSPACE framework offers a complementary, more descriptive method covering key levers of influence: The Messenger who communicates information, the design of incentives, social norms, defaults, the salience of information, priming effects, emotional affect, the power of commitment, and appeals to ego (Dolan, 2013).These behavioral levers have a direct impact on real-world situations, including Pakistan, where a lack of citizen trust, established social norms, and a complicated administrative environment have additionally increased the rationale for incorporating behavioural thinking in the design of policy. Building on this, the behavioral approach recognizes a spectrum of policy tools. These range from behaviorally-aligned policies, where traditional instruments like taxes are simply analysed through a behavioral lens post-hoc, to behaviorally-informed policies designed from the outset using existing evidence, and finally to behaviorally-tested policies, which represent the gold standard (Dolan, 2013). These tested policies are subjected to rigorous experimental evaluation, such as Randomized Controlled Trials (RCTs) or A/B testing, in a pilot phase before being scaled, ensuring that the intervention works in the specific context. In the case of Pakistan, where gaps between policy design and on-ground outcomes remain persistent, such context-sensitive testing not only strengthens policy effectiveness but also provides a more coherent and evidence-based pathway for integrating behavioral analysis into mainstream policymaking. After having reviewed key approaches, frameworks and theories important for behavioral analyses, the concept of nudge, as a theoretical domain as well as an operationalised concept situated in cultural contexts has been detailed in the subsequent section.

2. Nudge: Case Studies

Sunstein (2000) explains that the purpose of nudges is to make life easier, simpler and safer for people, to expand the range of choices for people to live a fuss-free life, and to reduce the social, economic, and psychological costs borne by people due to strict adherence to procedural requirements, bureaucratic frictions, and excessive paperwork and administrative work. Some nudges which Sunstein calls 'soft paternalism' in terms of aligning social behaviors, moderating social conduct, and steering public choices, have already built the 'choice architecture' compelling people to comply. Some of the nudges Sunstein identifies which have important policy implications are stated as follows.

Table 1.
Types of Nudges

Nudge	Purpose
Default Rules	Default rules are already institutionalized in the system with people to follow and comply with without the active choice provided to people because letting people choose can be time-consuming and many behavioral compliances which is necessary for society at large require speedy adherence so default rules in the form of automatic enrolment to scholarships programmes, insurance plans, healthcare plans, or pension plans are one of the most effective nudges.
Simplification	Already built complexities in the existing systems is detrimental to behavioral compliance and social change, it is also not cost-effective and eventually leads to less participation from people. Therefore, existing programmes, policies, and systems should be made easily navigable and intuitive with no regulatory burden and costs.
Social Norms	Designing policies, programmes and interventions popularizing that 'this is what most people do' has empirically and anecdotally been proven to be effective for behavioral compliance to meet normative needs, such as campaigns designed for birth controls, COVID SoPs compliance, anti-discriminatory behaviors, smoking, drugs, and alcohol abuse.
Ease, Convenience and Fun	People are inclined to make choices that are easy to make, aren't costly, and reduce barriers. In addition to choices being made easier and convenient, they should also be fun for more people to comply with.
Disclosure	Disclosure polices play out as trust building for people. These are also effective to keep a check on what is promised and what is eventually delivered, and to keep policy or programme implementer accountable.
Warnings and Graphics	In case of serious risks or social repercussions attributed to certain behaviors, warnings or signage in bold colors, large fonts, and letters can be effective in triggering people's attention. In case of unrealistic optimism people attribute to themselves while claiming that 'they will be fine' and hence do not need to adhere their behavior to the warnings and graphics, it is recommended by research to apply positive messaging, which means providing rewards (either monetary or non-monetary) to the preferred behaviors.
Elicitation of Implementation Intentions	Using people's implementation intentions can engage people more in activities or align to preferred behaviors, for example asking questions such as, are you going to use an anti-viral drug before pollen season? Are you going to tax files for the current fiscal year? Are you going to strictly comply to road safety rules as your next year resolution? As a social worker, will you be part of public demonstrations for women's rights marches? Questions framed like these not only suggest human behavior

	but also engage people in intended or aimed activities which are positive for society.
Pre-commitment Strategies	Timing precise and accurate pre-commitment strategies can help, motivate and align human behaviors towards positive outcomes such as pre-committing to smoking cessation programmes, pre-committing to tax compliance, pre-committing to road safety programmes and plans, etc.
Reminders	Reminder emails, text messages, and WhatsApp reminders can help remind people to adhere to certain behaviors, payment of dues, complying to savings or taxes, taking part in human rights non-violent protests, professional commitments or going to hospital appointments.
Consequences of Past Choices	Making people socially realize and conscious of what decisions they took in the past, the social costs borne by society at large, and what future holds regarding the choices they make, is also proven to be effectives for campaigns and programmes on smoking, open littering and dumping, harassment, environmental degradation, and social discrimination.

Few of the successful cases are discussed below that will help the usage of nudge interventions and provide learning.

2.1. Education Sector

This case is from the study by (Weijers, et al. 2023) which is done in collaboration with the education sector of Netherlands. The study conducted three nudging experiments with tertiary education students to increase their autonomous learning. The three nudge interventions were conducted through quasi-experiments carefully co-curated by researchers and teachers.

The first nudge aimed to improve the student's adherence to deadlines and planning. It intended to improve self-persuasion and intentions to implement the plans among students. The intervention was conducted through a video booth, where students were asked to plan their lessons and activities well in advance. The nudge revealed a positive short–term impact, as students identified on their own why planning is vital and what hurdles they face that impede their planning. Following the understanding of their issue, they were able to devise solutions for themselves. However, the researchers didn't find any significant improvement in the intervention group's students meeting their deadlines; nevertheless, they showed better self-reported planning skills.

The second intervention aimed to improve pre-class preparation; the required nudge was to provide the intervention group with a checklist for class preparation. The checklists were provided by teachers that contained the specific learning material. This intervention couldn't work and was considered ineffective in shaping students' learning behavior. The researchers concluded that this may be due to students' behavioral barriers, which may be their different personality traits, their resistance, or priorities.

The third intervention was to set a goal of asking at least one question by each student. The researchers concluded that the nudge increased the number of questions raised during the lecture, but the contribution was mostly from the students who were already active in the classroom. However, this was the most successful nudge as it had a long-term impact on the classroom and demonstrated improved final grades for the whole

class, including those who did not contribute enough to ask the questions. This nudge proved to be a catalyst in a conducive learning environment. All three nudges proved useful in making amendments to students' behavior, but sometimes misaligned student priorities may have hindered the intervention.

2.2. Government Interventions

In a study, Banerjee et al. (2025) explained how they tried to resolve an issue of low immunisation in a state of India which included 7 districts. The aim was to provide all needed vaccinations to children under 12 years. Indian implementers were trying different nudges since 2012, and many single incentive-based nudges were employed, which produced one-time results. Later, while planning the intervention, the researchers decided to employ a combination of nudges to achieve better results. The first nudge was to provide incentives in the form of mobile recharge to the child's family who was registered as the caregiver. Since many caregivers tend not to take things seriously, procrastinate, and become forgetful, which was planned to be tackled through the incentives. The information about this intervention was provided through street leaders, important personnel in the area, immunisation camps, and posters. No mass campaign was planned for this which may limit the reach of the information. The second nudge was by sending reminders on the mobile phone numbers via text messages and voice recordings to ensure that the required information/ reminder would reach the caregivers without any hindrance. The purpose was to send a reminder to the caregiver in case they had become forgetful of the due date of vaccination. The reminder message to the treatment group included incentive information, and a standard reminder was sent to the control group. The third complementary intervention was to nudge people to immunize their children through the immunisation ambassadors, carefully selected individuals who could provide information and advice to the local population about the importance of vaccination for children and the location of the camps. It had been observed that the people in the villages trusted their peers and local influencers more than what the government has to say, as they have strong social networks. After the nudge interventions were conducted, the pool-and-prune analysis technique was used, which was relatively new and enabled the removal of ineffective interventions and the pooling of effective ones. The combined nudges were a successful experiment as they removed any hindrances which couldn't be removed through single nudge. Later, it was advised to the government that this may be the best combination for a successful policy planning, as results showed a 44% increase in the immunisation. However, the most cost-effective best policy was suggested which was the usage of information spread through any way and the constant SMS reminders. With availability of advanced information, people become more aware and understand the need for immunisation for the betterment of their children.

2.3. Be/Don't be Like Toni

In the study, the researchers (Mundt, et al. 2024) took a humorous approach to investigate the nudging technique through multiple experiments. The researchers aimed to explore if the nudges can change the behavior of people towards accepted social norms. The nudge used a famous internet meme, "Be like ___," which was very popular on social networks, showing that Bill was doing a socially accepted or unaccepted thing, so others should be, or not be, like him. In the current study, the researchers replaced Bill with Toni and devised their first experiment in a university restroom to reduce toilet paper usage, portray Toni as cool and environmentally conscious, and suggest that people should be like him. The nudge was successful in changing the behavior as the treatment group used

significantly fewer toilet papers than the control group. Although the experiment was successful, researchers considered the sample educated and highly environmentally aware, which could explain the results. Therefore, they replicated the same experiment in a Christmas market which was at a colder and larger space with people of all types and all environmental awareness level. The results were positive and indicated that people tend to change behavior with a nudge, despite potential discomfort, corroborating the findings of the first experiment.

Afterwards, the researchers conducted another experiment with the same aim of lowering the paper toilet usage to save environment but this time they used different approaches. They used a prescriptive approach with positive imagery of Toni and a proscriptive approach with negative imagery of Toni, along with one control group. The results revealed there wasn't much difference from the earlier experiments, and both approaches were equally useful as both treatment groups used less toilet paper than the control group.

Researchers then conducted another experiment and used the same nudging technique. This time they planned to reduce the use of plastic lids at a coffee shop by nudging people not to take the plastic lid when they were getting their coffee. This experiment did not yield results, as there was little difference in behavior between the treatment and control groups. The researchers attributed this to a contextual issue, as people may require a plastic lid for safety and in case of a coffee spill. The results revealed that people choose to be environmentally friendly when the stakes are low and the decision is cognitively practical. The researchers conducted their final experiment during COVID-19 times to nudge people to be socially responsible and used the Toni nudge showing him to be protecting others by wearing a mask. This nudge positively impacted the people and they wore a mask after looking at the sticker. This proved that nudges are effective in altering the behavior of the people but when it is cognitively compelling for them as nudging can be very context specific.

2.4. Case of Nudge+

Banerjee et al. (2025) takes the idea of nudge a notch above and explains Nudge+. The idea of Nudge+ is that two nudges are employed either sequentially or simultaneously as it targets both fast and slow thinking processes. This has been experimented with in many countries and has proven to be successful. One study in Australia introduced a reflection nudge followed by an information nudge, which increased the percentage of job security. A similar successful case was reported by Banerjee and John (2022) when they introduced personal norms before nudging to adhere to social norms; the size of the acceptance of social norms doubled. Such cases show that complementary nudges play a better role in achieving the required behavior.

2.5. Pakistan and Nudge

In Pakistan, persistent challenges such as low compliance, weak service uptake, and limited citizen trust highlight the need for policies that are behaviorally realistic rather than normatively ideal. A behavioral framework allows policymakers to diagnose behavioral bottlenecks, redesign policy delivery mechanisms, and improve outcomes without relying solely on coercive regulation or fiscal incentives. By embedding behavioral insights into policy analysis, action papers can provide context-sensitive, evidence-informed, and implementable recommendations, making behavioral analysis a critical foundation for effective policymaking in Pakistan.

There have been numerous other cases that have proven the successful implementation and usage of nudge as an intervention to have positive behavioral change across the globe. Pakistani Scholarship and policy circles have also accepted the usage of Nudge, and a few activities were conducted without naming them as nudges. Pakistan is a country facing extreme poverty; in some cases, people have to sleep hungry, i.e., 6 out of 10, and on the other hand, people waste a lot of food on events (UNDP, 2019). Centaurus Mall in Pakistan has placed a standee in the food court that shares food-waste stats and advice to buy less food. This is inherently an information nudge, but it isn't considered in any evaluation or research; therefore, the results remain unknown. Similarly, Pakistan is facing a water shortage, especially in Islamabad. In an RCT, UNDP conducted focus group discussions, and as a result, people in the treatment group wasted less water. Here, FGD was a nudge for people (UNDP, 2019). Khyber Pakhtunkhwa government sent penalty related nudging message for registration as tax payers, which was aggressively framed and did not bear fruitful results. A similar nudging message regarding date reminder was sent to already registered tax payers and that was successful in yielding the required results. Nudges sometimes fail or prove to be ineffective when they are not carefully designed, and their boundary conditions are ignored (Hasib, 2025). Additionally, Hasib (2025) raised an important point: when people respond to nudges that can affect them subconsciously, in complex situations such as a lack of trust in government in countries like Pakistan, a single nudge can never bring about the intended results. These arguments also corroborate Thaler's (2011) argument that the government needs to take serious action if it wants its nudging policies to alter human behavior effectively. People in Pakistan want to comply to required behavior, as the authors of this study conducted a quasi-experiment by cleaning the garden litter and observed that people later tried to keep it clean. Just a little nudge was required. Therefore, the government of Pakistan needs to learn from the successful cases from around the globe and take the nudging intervention seriously. Also, it is very important that multiple nudges can be used together in order to increase the compliance of behavioral change as Nudge+ may be the right solution.

There have been numerous other cases that have proven the successful implementation and usage of nudge as an intervention to have positive behavioral change across the globe.

In the following section, methods and techniques which are used for behavioral analyses have been reviewed. The section is important as it describes which research methods can be of use to operationalise which nudge or a theoretical concept.

3. Methods and Analyses for Behavioral Interventions and Policies

Behavioral analysis requires a number of techniques from different fields of social scientific inquiry which are used for analysing individual and social behaviours. The application of these techniques is contextualised according to socio-cultural realities because nudges for behavioral analyses need to be given critical assessment for cultural sensitivity. Nevertheless, the application of these methods and tools is universally accepted for behavioral analysis of different interventionist policies, the efficacy of the interventions and critical assessment of the prevalent behaviors as a blue print before designing and implementing policies. While doing behavioral assessments, evaluations, and analyses, interactions with social actors is critical and interpretations from the data collected and hence knowledge constructed are socially-laden. Therefore, the

intrepretivist/interpretationist epistemological and social constructivist ontological positions align more to analysing social behaviours.

Application of different research designs is justified. The point for consideration are reasons for which behavioral analyses are required. Some researchers are interested in exploring and describing the relationship between/among variables as a way to articulate the efficacy/inefficacy of the intervention, for which descriptive design will be more appropriate. Some researchers will be interested in explaining the relationships and the reasons behind the same, for which explanatory research design will be more suitable. Some may be leaning more towards deciphering what meanings people attribute and make from different social processes and phenomena, including how engineered social policy interventions are and whether these interventions are socio-culturally sensitive and aligned to the needs of the target groups. For such studies, phenomenological design will be more appropriate. If the intent is to use narrative techniques for documenting the change which the interventions have caused, narrative research design is more appropriate. Some researchers employ different ethnographic methods such as narrative elicitation, observational techniques, informal conversations and unstructured interviews, implying the use of ethnography or ethnological research design. The study groups can be examined over a long period of time (longitudinal design) and at the cross-section of time and space (cross-sectional design), applying various methods and instruments for data elicitation ranging from conversational to non-conversational methods, and social mapping to observational techniques. The research methods which are applied to a variety of problems to understand the effectiveness of policy interventions are detailed in the following text.

Conversational methods entail the use of conversations to understand and explain existing problems, socio-cultural processes and phenomena, and lived-in experiential realities. These conversational methods, known as interviews are classified as, structured, semi-structured, and unstructured. The point marking these different from one another are the number of questions (whether the number of questions was fixed or flexible), whether the sequencing of questions fixed or flexible, the type of questions included were closed-ended, open-ended or a combination of both, and whether the positionality of the researcher fixed or flexible. Along these four domains, the choice of interviews can be ascertained. If the researcher's positionality, number and sequencing of questions are fixed, and questions asked from the respondents are all closed-ended, then the type of interviews will be structured. This type of interviews is conducted with respondents while conducting surveys. On the other hand, if, researcher's positionality is flexible, the number and sequencing of questions asked is also flexible, and recurrence is of open-ended questions, then the type of interviews is unstructured. Between these two types are the semi-structured interviews in which specifications about fixed/flexible need to be specified and reasoned to decide if semi-structured interviews are leaning towards structured or unstructured types. It is also important to consider that the type of interview selected and eventually conducted must be aligned with the type of research design selected for the study, the type of data elicited from the target groups (qualitative/quantitative), and most importantly the objectives and questions which a given study intends to respond to through research. The following table provides a comprehensive summary.

Table 2.
Interview Types and Points of Difference

Type of Interview	Type of Questions	Number of Questions	Sequence of Questions	Nature of Research	Takes the Form of:
Structured	Closed-ended	Fixed	Fixed (cannot be changed)	Descriptive	Survey
Unstructured	Open-ended	Flexible (probes, prompts, extempore and follow-up questions are permissible)	Flexible (can be changed according to the discretion of the researcher)	Explanatory Narrative Ethnographic Phenomenological Intrinsic Case Study	Narrative Episodic Delphi Focus Group Discussions Problem-centered Feminist
Semi-structured	Open and Closed-ended	Both fixed and flexible (clarificatory probes are encouraged)	Can remain fixed, but can also be changed. Depends upon where the tilt of the interview is more towards (structured or unstructured)	Descriptive Instrumental Case Study	Stakeholder (subject specialist, knowledge-bearer, position/status holder, interventionist, policymaker etc.)

For behavioral and social analyses, the application of ethnographic research methods is both common and useful. Multiple interventionist social policies about healthcare, child wellbeing, social protection, food security, and poverty graduation have used ethnographic insights through eliciting data from the treatment and control groups using unstructured interviews. Some of the interview types, features unique to them, procedures to follow and usability for behavioral and social analyses are detailed in the points below.

- ***Narrative***: For eliciting experiential and event-based narratives. Narrative interviews employ narrative guides which use self-generating schema encompassing themes and related sub-themes which are important to the lives of the respondents. These are long-format interviews and are usually conducted in multiple sittings to cover a broad array of narratives from a person's life. Therefore, it is imperative to have already built rapport and gained trust with your respondent before committing to narrative interviews. The interviews are procedural and follow certain protocols starting with the informed or implied consent from the respondents. considering that interview will take time, choosing a noise-free place with minimum external or forceful interventions is critical. Once a narrative relevant to the respondents' lives is selected by the respondent, and the narration starts, the interviewer shouldn't intervene vocally although non-vocal communication to elicit granularities of the narration can be helpful. Once the narration completes, the interviewer can ask questions which completes the narrative structure by filling in informational lapses. The interviews need to be recorded with consent. The subsequent stages involve transcription and thematic or structural analyses of the data elicited through narrative interviews. The interviews are very useful to detail the life before,

during and/or after the interventions, to illustrate through experiential narratives how the lives have been impacted, and how the community has responded to the change.

- ***Episodic***: This interview covers both episodic and semantic knowledge. The episodic knowledge covers knowledge contextualised in time and space whereas semantic knowledge is decontextualised from time and space. Both types of knowledge help construct knowledge about the efficacy of interventions, and socio-cultural, economic and political implications of the events, social processes and political phenomena. The interviewer is required to start with the elicitation of content mapping (semantic) data followed by asking content mining questions to extract episodic data. The subsequent stages of interviews involve transcription of data, coding of data, thematic or structural analyses and interpretation.
- ***Delphi***: These interviews are conducted to elicit forecasting data from the respondents. The data is based on the opinions extracted from the experts who are interviewed about the potential or intended results of a policy outcome, policy output or policy intervention. It is a type of group interview in which multi-vocality of opinions is focused by keeping group diverse so that diversity in opinions is elicited on the same topic.
- ***Focus Group Discussions***: Focus groups are important for eliciting group data on a given subject. The interviews are imperative for data which brings generality and shared experiential realities. For conducting focus groups, logistics and group dynamics are as important as the data extracted from the respondents. The diversity defined by age, gender, ethnicity, or any other domain, is indicative of multiplicity of opinions. The role of interviewer, in this situation, is that of a facilitator who not only facilitates in eliciting data from the participants but also in smooth operability of the conversation.
- ***Problem-Centered***: This type of interview captures the intrinsic, out-of-norm, or deviant cases which the researcher views as the ones requiring deeper research introspection. Such interviews are effective for detailing cases which yield results different from the instrumental cases.
- ***Feminist***: These interviews can be used to elicit data on female-targeted interventions, especially from women who are (and those who are not) beneficiaries of such interventions. In this interview, the relationship building between the interviewer and interviewee is critical. Building reciprocal, non-colonial, and self-reflective relationships between interviewer and interviewee is important. It is also advised to have some commonality of experience between the two for the interviewee to not only provide an in-depth insight into the subject matter but also ease in co-construction of knowledge.

The use of interview guides and protocols is necessary in which researchers mostly follow iterative or non-linear process of updating the themes and related sub-themes on which relevant questions from the respondents will be asked. A comprehensible tabulation of interview types and instruments used within each one of them is detailed as follows.

Table 3.
Types of Unstructured Interviews and Use of Behavioral Analyses

Type of Unstructured Interview	Instrument	When to Use in Behavioral & Social Analyses
Narrative Interview	Self-generating Schema as the Interview Guide	To elicit experiential and event-based narratives from people; their stories, realities, and perspectives regarding interventions and policies.
Episodic Interview	Interview Guide/Protocol	To elicit data from cross-section of time and space as well as the generalized opinions about interventions and polices.
Delphi Interview		Expert opinions about efficacy of interventionist policies.
Feminist Interviews		Interviews centering female narratives and experiences about interventionist policies.
Focus Group Discussions	Focus Group Guide	Group data to extract sameness as well as differences of opinions in data from the beneficiaries (and non-beneficiaries) of interventionist policies.

In addition, observational studies also help in strengthening behavioral analyses. Observation as a research method is rooted in anthropological research in which thick descriptions of cultures, social groups, social institutions and organisations are granularly explained through continuous researcher's engagement at the communal level, rapport-building, social mapping, and participant observation. This ethnographic approach, which impinges upon emic insights, yields layered, complex, intersectional, and dialectical results which can be critical for effective and result-oriented impacts. Participant observations require researchers to reside in the spaces for longer periods of time becoming part of the communities and social groups they are studying. This insider's view brings out socio-cultural specifics rarely elicited through data using quantitative research as the approach.

The behavioral data can be textual, documental, archival, narrative, conversational, or pictorial - these are different forms of qualitative data which require elicitation methods to be participatory and inclusive. Observations allow these forms of qualitative data to be observed, seen, documented, and converted into textual formats. In observations, the behavioral researchers observe naturally occurring data around them. They do not need to construct an environment to elicit data. The environments are the natural settings in which data is occurring naturally in the form of social interactions and organic conversations in the open spaces. For less open and more closed spaces, greater degree of participation to gain respondents/participants' trust yields observational data, which is later on thematically or structurally analysed, arranged typologically or taxonomically, and interpreted reflexively. The application of observation is incisive when social mapping compounds the efficacy of the interventions. Social mapping helps in locating the communities, documenting their material realities, outline the quantity and quality of the capital possessed by the communities, and interventions designed by these results can yield better outcomes. Randomized controlled trials are experiments conducted to assess human behaviors when different targeted interventions are designed and implemented,

and the effectiveness of the same needs to be gauged. In these trials a randomly selected subject which can be individuals, households, or firms are assigned a treatment group to which a policy or an intervention is applied and the control group which is not policy-targeted or intervened. Randomized control trials can also be conducted along with social experiments in which social behaviors are assessed by carefully curated experiments and applying ethnographic techniques of observations, interviews, and participatory methods. Empirically, both RCTs and social experiments have been successful in documenting behavioral change in topics such as civic engagement, social protection, road protection, social media engagement and gender-inclusive social policies.

3.1. Pakistan and Nudge/ Discussion

In Pakistan, persistent challenges such as low compliance, weak service uptake, and limited citizen trust highlight the need for policies that are behaviorally realistic rather than normatively ideal. A behavioral framework allows policymakers to diagnose behavioral bottlenecks, redesign policy delivery mechanisms, and improve outcomes without relying solely on coercive regulation or fiscal incentives. By embedding behavioral insights into policy analysis, action papers can provide context-sensitive, evidence-informed, and implementable recommendations, making behavioral analysis a critical foundation for effective policymaking in Pakistan.

Behavioral analysis if conducted properly with usage of above mentioned methods can help in providing policy solutions that will enhance the effectiveness of policy implementation that Khan et al; (2026) mentioned as major issue of policy failures. Pakistani Scholarship and policy circles have also accepted the need of behavioral analysis and tools and have acknowledged the usage of Nude as a subtle behavioral changing tool. A few activities were conducted by international and national organisations in Pakistan implicitly using nudges. Pakistan is a country facing extreme poverty; in some cases, people have to sleep hungry, i.e., 6 out of 10, and on the other hand, people waste a lot of food on events (UNDP, 2019). Centaurus Mall in Pakistan has placed a standee in the food court that shares food-waste stats and advice to buy less food. This is inherently an information nudge, but it isn't considered in any evaluation or research; therefore, the results remain unknown. Similarly, Pakistan is facing a water shortage, especially in Islamabad. In an RCT, UNDP conducted focus group discussions, and as a result, people in the treatment group wasted less water. Here, FGD was a nudge for people (UNDP, 2019). Khyber Pakhtunkhwa government sent penalty related nudging message for registration as tax payers, which was aggressively framed and did not bear fruitful results. A similar nudging message regarding date reminder was sent to already registered tax payers and that was successful in yielding the required results. Nudges sometimes fail or prove to be ineffective when they are not carefully designed, and their boundary conditions are ignored (Hasib, 2025). Additionally, Hasib (2025) raised an important point: when people respond to nudges that can affect them subconsciously, in complex situations such as a lack of trust in government in countries like Pakistan, a single nudge can never bring about the intended results. These arguments also corroborate Thaler's (2011) argument that the government needs to take serious action if it wants its nudging policies to alter human behavior effectively.

Further, People in Pakistan want to comply to required behavior, as the authors of this study conducted a quasi-experiment by cleaning the garden litter and observed that people later tried to keep it clean. Just a little nudge was required. It is important that the approach adopted to bring in behavioral change is aligned with the required change and

the social strata of people i.e. Millenials and Gen-Z approaches things differently than the earlier generations. Considering the diversity in cultures, income level, and mental approaches, the different approaches discussed above should be employed. Therefore, it is very important to understand the people and that can be done through usage of ethnographic and observational studies, paving ways to understand people and they can be further probed through structured and unstructured interviews and based on the results policies can be made that can achieve effectiveness in implementation of those policies. Better nudges can be made as well as nudging has proven to be successful behavioral changing tool. Therefore, the government of Pakistan needs to learn from the successful cases from around the globe and take the nudging intervention seriously. Also, it is very important that multiple nudges can be used together in order to increase the compliance of behavioral change as Nudge+ may be the right solution.

Conclusion

Considering the importance of behaviorally-informed social policies, and how evidence can actually guide policy, this document suggests following recommendations.

- As the write-up shows successful case studies from across the globe and usefulness of experimental research designs for policy design, implementation, and evaluation in Pakistan, more research for producing evidence in the fields of behavioral science, social experiments, and policy designs needs to be conducted to gauge policy with evidence. Some of the key policy areas where behavioral analyses can be useful in Pakistan are tax compliance, open littering, social media regulations, civic engagement, responsible citizenry, and social inclusion.
- Producing one-off evidence may not translate into concrete policy outcomes, therefore consistency and concerted research introspection can be facilitated by forming a behavioral and social analysis consortium at the federal and provincial levels under each development and planning ministry with the target-oriented objectives of identifying key policy areas where behavioral analyses and evidence are needed, conducting research and liaising with different government departments and ministries for implementation.

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