**Deviant Behavior in a Moderated-Mediation Framework of Incentives, Organizational Justice Perception, and Reward Expectancy**

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**Abstract**

This study introduces the concept of deviant behavior in a moderated-mediation framework of incentives and organizational justice perception. The proposed relationships in the theoretical framework were tested with a sample of 311 academics; using simple random sampling, via causal models and Structural Equation Modelling. The findings suggest that incentives might boost the apparent performance, but not necessarily the intended performance. The results confirm that employees’ affection for incentives has a direct, indirect, and a conditional indirect effect on their deviant behavior likelihood. The relationship between employee deviant behavior likelihood and affection for incentives were moderated by organizational justice perception and partially mediated by reward expectancy, thus having significant contributions towards the extant literature of deviant behavior and incentives. The findings have important implications for managers, academicians, and policy makers for mitigating adverse behavior in professional employees through proper use of incentives.

Keywords: Performance related pay, deviant behavior, organizational justice, academe.

**INTRODUCTION**

The extant literature tends to focus on the bright, as well as the dull sides of incentives (Thomas, Goddard, Reid, & Nicholson, 2013; Aguinis & O’Boyle, 2014). An appropriate incentive system is concerned with the employee cost-benefit analysis (Lavy, 2007). While significant attention has been paid to the financial aspect of incentives, the question of deviant behavior of employees that arise due to the use of extrinsic incentives has not been given due consideration.

Some scholars suggest that performance related payment (PRP) systems might decrease intrinsic motivation and even provide an impetus for opportunistic or unethical behaviors (Deci & Ryan, 2000; Kohn, 1993; Pfeffer, 1998). Others reported positive effects on self-determination and intrinsic motivation of agents (Eisenberger, Rhoades, & Cameron, 1999; Fang & Gerhart, 2012). In an increasingly complex work structure, organizations are heavily relying upon the use of incentive systems of PRP (Kang & Yanadori, 2011; Kessler & Purcell, 1992). The current acumen is to motivate professionals and reduce the potential hazards associated with the use of high-power incentives (Beer, Cannon, Baron, Dailey, Gerhart, Heneman, Kochan, Ledford, & Locke, 2004). Moreover, an incentive system should uphold organizational justice (Schaubroeck, Shaw, Duffy, & Mitra, 2008). A properly designed incentive system will enhance the link between the expectancy of receiving rewards and subsequent work behaviors (Lawler, Mohrman, & Ledford, 1995) in the presence of organizational justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Greenberg & Colquitt, 2005).

The current research undertook an ambitious goal, by developing a broad and comprehensive model that includes both organizational-relevant variables, related to incentive systems and justice perceptions, and individual-level variables, measured in the form of affection and tendencies. The interplay between deviant behavior and both benefits and hindrances of incentives has the potential of shedding light over the effectiveness of incentive systems. Specifically, the unintended negative impact of incentives, in the form of PRP, on self-determination, intrinsic performance and opportunistic or unethical behavior can address appealing research questions. The use of incentives in the education sector is confronted with the same dilemma; as incentives have shown little effect on performance of scholars (Springer et al., 2010). Merit pay systems have been unsuccessful in the education sector (Kelley & Odden, 1995; Ballou, 2001). It is difficult to reward the teachers based on the evaluation of their performance (Ballou, 2001). Despite the growing awareness of the potential beneﬁts of quality education, the empirical testament of how to tap quality, associated with the proper use of incentives is sparse (Lavy, 2009; Steers, Mowday, & Shapiro, 2004). The opinion of scholars on the use of incentives in the education sector is, therefore, inconclusive.

The research has even more potential because the subjects are professionals and the effects of monetary incentives are analyzed within the education sector, a sector in which empirical evidence on the effectiveness of extrinsic incentives is scant. Higher education–offers a suitable ground to test the effect of incentives on scholars’ behavior, which might be of relevance to educational reformers (Wyatt, 2013). Due to the nature of academic work (Baruch & Hall, 2004); we assume that faculty members have multiple tasks to perform in their job (i.e., teaching, research, and service).

Despite the apparent benefits of incentives, empirical investigations on the use of high-power incentives in professionals are scarce (Lavy, 2009; Steers et al., 2004). The majority of previous studies have focused on the use of incentives for executive employees (Hall & Murphy, 2000; Allcock & Fialtotchev, 2010; Elayan, Lau, & Meyer, 2003) or on employees in the production sectors. We aim to explore the incentives offered to academics and find out if high-power incentives can become a source of behavioral problems for these professionals. We also contribute towards understanding of the effective use of incentives and related practices (Wyatt, 2013). In pursuing our goal, the study aims to answer i) whether incentives provided to the faculty increase the likelihood of the acts of deviant behavior in these professionals? ii) What, if any, is the role of reward expectancy and organizational justice in the relationship between incentives and deviant behavior in professionals?

The study aims to achieve four objectives. Our first objective is to develop and test a conceptual framework for understanding the effects of monetary incentives on individual effort and performance and also to discuss theories that suggest mediators of the incentives-effort relation. Our focus is on elucidating the motivational and cognitive mechanisms through which monetary incentives are supposed to enhance performance on tasks and activities that entail extrinsic rewards. For this purpose not only the main constructs used in the study have been defined, but how these constructs were put to test in the field have also been discussed.

Our second objective is to enumerate and categorize important tasks and activities included in the faculty’s job that may interact with monetary incentives to result in deviant workplace behaviors. Such deviant behavior is likely to result in either partial achievement of tasks or altogether ignoring tasks that constitute the faculty’s job. To achieve this objective, we test a mediating path that leads from affection for monetary incentives to reward expectancy and from reward expectancy to deviant behavior likelihood.

Our third objective is to test the possible moderating effect of organizational justice perception in a moderating-mediating model using first level moderation. This effect will be tested with the interaction of affection for incentives (monetary) and reward expectancy to determine whether or not there is any interaction effect as proposed in the model. Moreover, the importance of each construct in higher education setting and also the theoretical and practical importance of examining the constructs have been provided.

The study has used an array of mediation, moderation, and moderated-mediation models to find answers to the set questions. Data were collected using a survey and later analyzed via SPSS PROCESS MACRO, following the novel approach of testing mediation, moderation, and mediated-moderation (Hayes, 2013). We offer insight into the deviant behavior of these professionals, which is partly on account of faulty design of monetary incentives provided to them can help the management and the HEC to redesign the incentives. If the elements of incentives do not focus on the key cognitive processes that has an effect on effort, then such incentives will not be effective (Bonner & Sprinkle, 2002). Findings of this study also validate the complexity of extrinsic incentives in tasks that do not lend themselves to easy measurement in a collectivist culture, as the previous studies on issues related to incentives were mostly conducted in individualistic cultures. According to Triandis (1995), the differences between individualistic and collectivistic cultures explain for a significant amount of variance in the social behavior of individuals across cultures.

We offer a further step towards providing the theoretical and practical implications for incentive systems within knowledge-based environment. Finally, we provide directions for future research that would further improve our understanding regarding the effectiveness of monetary rewards. We believe that it is utmost essential to address the questions set for this study given the important role of higher education and the amount of finances spent on professional incentives.

**THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT**

Agency theory (Eisenhardt, 1989) enhances the understanding of complex principal-agent relationship in an organizational setting. Using our theoretical framework we provide new insights into the problem of deviant behavior of professional staff.

For the purpose of this research we have defined the term deviant behavior of faculty members in terms of acts involving ‘opportunism’ and/or ‘shirking’ that will have an adverse effect on the achievement of tasks in an ethical manner by increasing the likelihood of triggering inappropriate behaviors. For the purpose of this study the term affection for incentives refers to an individual’s liking for monetary rewards that is measured as a stable tendency. The intensity of affection for incentives will depend upon an individual’s likeness for monetary incentives. Moreover, it can also be linked with personal trait of an individual as some people have a higher natural liking for money than others; however, this study is not concerned with such personal traits. Reward expectancy will result in directing the efforts to the task or activity in which the individual chooses to engage, with the expectancy that monetary incentives outweigh the costs of doing a task or activity. Therefore, monetary incentives tied to performance should theoretically lead to effort being directed towards the rewarded task or activity (Bonner & Sprinkle, 2002). In practice, the effects of incentives on the direction of effort can be observed with such measures as prioritizing tasks and activities from a task bundle. Finally, organizational justice perception has been taken into account as an individual’s perception based on procedural and distributive justice.

**Relationship between Employee Affection for** **Incentives and Deviant Behavior Likelihood**

Deviant behavior has been used interchangeably with unethical behavior that include, but cannot be limited to, theft (Greenberg, 1993), workplace deviance (Bennett & Robinson, 2000), cheating behavior (Chen, Tang, & Tang, 2014), misbehavior in organizations (Vardi & Weitz, 2016), and counterproductive behavior of agents (Cohen-Charash & Spector, 2001). Counterproductive work behaviors refer to a set of intentional behaviors by employees that are different from the genuine interests of the organization (Sackett & DeVore, 2002). The concept has been defined by Kotowitz (1987) as “actions of economic agents in maximizing their own utility to the detriment of others, in situations where they do not bear the full consequences (p. 549)”. The problem occurs when an agent’s activity is generally non-observant to the principal, inducing the agent to shirk (Eisenhardt, 1989). Park and Blenkinsopp (2011) confirm that behavioral corruption violates the work ethics.

For the purpose of parsimony, we focus only on ‘opportunism’ and ‘shirking’ behaviors of academic professionals and consider these as acts of deviant behavior in individuals. We assume deviant behavior as an unstable tendency of individuals, because it differs from individual to individual. Both “opportunism” and/or “shirking” behaviors of employees adversely affect their performance efficiency (Milgrom & Roberts, 1992). Shirking tends to reduce agents’ costs (Gomez-Mejia, 1992); resulting in extracting higher rents from the principal, thus increasing business costs. Ghoshal and Moran (1996) consider opportunism as a substantial pattern of self-interest assumption of motivation. Agents are assumed to be opportunistic, seeking self-interest with guile (Wright, Mukherji, & Kroll, 2001). The problem is particularly common in professional agents, posing a challenge for the principal (Hansen, 2009; Grant, 2013).

Any action based on moral consideration involves cognitive processes of decisions about future actions (Trevino, 1992), but contemporary models tend to focus on positive outcomes rather than paying attention to the issues of deviation in behavior (Schumacher & Wasieleski, 2013). The innate logic for Performance Based Rewards (PBR) is to motivate individuals to increase their effort, and hence their output, and indeed there is some evidence that payment for performance can increase performance (Lazear, 2000). PBR aims to motivate employees by presenting a transparent link between performance and financial rewards, hence raising productivity (Deckop, Mangel, & Cirka, 1999). Moreover, whether performance will be increased on the right task and in the proper direction is an issue that needs to be looked into.

In a two-task model an agent must be induced not only to exert a certain level of effort, but also to allocate their effort in an efficient manner (Raith, 2008). According to Reid (2008) the aspect of quality in higher education has been conﬁned only to what is measurable, ignoring sometimes more important aspects, which are not readily measurable, yet might be equally important. Closely related to complex tasks is the problem of performance measurement. Measuring employee performance is often problematic because objective performance measures only imperfectly reflect an employee’s contribution to the firm (Schöttner, 2008). The author upholds the fact that if rewards depend only on imperfect measures, employees’ incentives are not perfectly aligned with the firm’s objectives.

An optimal incentive scheme should assure that there is no deformation in the employee endeavor (Susarla, Barua, & Whinston, 2003). Performance measures should integrate tangible and intangible outcomes (Buller & McEvoy, 2012). Creech (2000) stresses that educators must pay careful attention to what is being measured and not the amount of information gathered, as usually what is being measured is not always important and what is important is not always measured.

However, Bonner, Hastie, Sprinkle, and Young (2000) claim that there is a lack of empirical evidence to test if monetary incentives have varying effects on effort, and consequently, do not always lead to improved performance, particularly in dual-tasking (Wieth & Burns, 2014). Motivation is a fundamental component of any reliable model of human performance (Pinder, 2011). Conventionally, educators consider intrinsic motivation to be more desirable and results in better learning outcomes rather than extrinsic motivation (Lai, 2011). Extrinsic incentives are motivating only to the extent that an individual believes attaining the incentive is instrumental toward achieving other things of value (Vroom, 1964). Usually organizations rely on “carrot and stick” types of incentive plans (Cerasoli, Nicklin, & Ford, 2014). Incentives are provided to the individuals under the assumption that they will exert more effort for desirable behaviors when incentives are guaranteed (Greene, 2011). We therefore expect that an employee’s affection for monetary incentives will result in tendencies to be engaged with acts of “opportunism” and “shirking”. The former will result in increased performance on tasks that will generate quick monetary rewards (e.g., inflating the publication count and teaching more credit hours at the cost of quality). The latter will turn a faculty members’ attention away from tasks that have no or lower incentives attached to them, but are a part and parcel of their job (e.g., ignoring the aspects of effective teaching). Individuals will shirk on a task unless it somehow contributes to their own economic well-being (Bonner & Sprinkle, 2002). Deviant behavior for the purpose of this study includes all such behaviors of the faculty that involve acts of “opportunism”, such as focusing on quantity rather than quality of tasks and/or “shirking”, which refers to either partial achievement or non-fulfilment of tasks due to no monetary incentives attached to them. Practices like these will have an adverse effect on the quality of education (Usman, 2014). Consequently, we expect that:

*Hypothesis 1. An individual’s affection for* *monetary* *incentives will lead to behaviors that are anticipated to maximize benefits, either by shirking tasks that do not hold an incentive or chase tasks that entail higher monetary incentives, thus, increasing likelihood for faculty to be engaged with work place deviant behavior.*

**The Link between Affection for** **Incentives and Reward Expectancy**

Prior research has shown that employees who receive monetary incentives exert higher levels of efforts than those receiving flat-wage contracts (Sprinkle, 2000), also known as the line-of-sight criteria (Lawler, 2000). Weak line-of-sight rewards cannot produce the much needed motivational effect for an employee. If pay is unclear, or the link between effort and outcome is hazy, motivation to exert effort will be unlikely (Miller & Cohen, 2005). Rousseau (1997) considers the “who”, “how”, and “what” of rewards’ distribution and the meaning the parties give to these exchanges as the issues of reward system. Bonner and Sprinkle (2002) have referred to financial rewards as an interest outcome, because money has an instrumental and symbolic value (Furnham & Argyle, 1998). People will be motivated because they believe that their decisions will lead to desired outcomes (Redmond, 2013). Therefore, an individual’s motivation and subsequent effort are likely to be higher under PRP due to an increased valance of the outcome and an increased expectancy about the effort–outcome relationship (Bonner & Sprinkle, 2002).

It is important to understand how incentives influence the various dimensions of effort because understanding these mechanisms are critical for determining how to maximize the effectiveness of monetary incentives (Bonner, 1999). Organizations may restructure incentive schemes with an aim to enhance performance, however if the restructured elements of the incentives do not target the crucial cognitive processes that lead incentives to effect effort, then the restructuring will not be operative (Bonner & Sprinkle, 2002). The Higher Education Commission (HEC) devised a scheme of incentives for the faculty to encourage publication count, irrespective of the quality of those publications. Under the current scenario, incentives provided to the faculty have been designed in a manner that increases an employee’s motivation towards tasks that are either easily quantifiable or fetches quick rewards. For example, the faculty gets monetary incentive for publishing more rather than taking into account the quality of publications, although, monetary reward would typically be more than double for publication appearing in an impact factor journal rather than a non-impact factor journal, the latter recognized by the HEC. This increases the likelihood that the faculty will engage in “opportunism” by targeting quick publications in low standard journals for short-term monetary gains. Furthermore, the faculty is given monetary incentives for teaching more credit hours and not for teaching effectiveness. Such teaching can be beneficial to the individual, but has little contribution towards learning and critical thinking of the students.

If measures, goals, and efforts are not synchronized, people might divert their efforts towards meagre actions (Turk, 2008; Aguinis, Joo, & Gottfredson, 2013), at the expense of acts that will have an impact on their effective performance (Holbeche, 2005; Wildman, Bedwell, Salas, & Smith-Jentsch, 2011). The measurability of performance and multi-dimensionality of tasks have an important role in determining the effectiveness of incentives to raise performance (Burgess, Propper, Ratto, & Tominey, 2012).

The extent and the variance of incentives offered, determines the amount of effort the agent will choose to invest (Roberts, 2004). Employees should understand how rewarding processes work and how they will be influenced by those processes (Case, 2001). Cognitions mediate reward and motivation (effort allocation), thereby influencing the effects of work rewards (Guzzo, 1979). Expected reward value can have strong effects on behavior (Gold, 2003).

In the current study, “reward expectancy” has been deﬁned as an employee’s choice of exerting effort based on the expectancy of receipt of monetary rewards that will be reflected as performance on various tasks. This implies that when individuals perceive that investing more effort in a particular task might fetch them monetary rewards as a result of those efforts, they will be more inclined to perform those tasks and vice versa. The concept of reward expectancy in this study refers to “working hard” that will fetch outcome in the form of reward. Reward expectancy has similarity to “effort-reward” or “E→O” expectancy as suggested by Lawler III and Suttle (1973). These authors have provided the “Effort→Outcome” association as a measure of the degree to which effort is seen to result in such outcomes as pay and promotion. Moreover, the authors have represented “Effort’ by the term "working hard". Performance incentives provide an impetus for a behavioral pattern of employees (Gardner, Dyne, & Pierce, 2004). Kruglanski, Chernikova, and Schori-Eyal (2014) suggest that an individual motivation works through the interaction of wants and expectancies. Kruglanski and colleagues refer to “want” as an individual’s desire whereas “expectancy” is the likelihood of satisfying the “wants”.

In jobs with multiple tasks, as different activities compete for an individual’s time, effort, and attention, therefore, those activities which hold a higher value for an individual in terms of rewards will steal his or her time, efforts and attention. The faculty job also consists of several tasks, such as teaching, research, and service, etc. Seeking guidance from the literature and keeping in view the design of monetary incentives provided to the faculty, we may assume that a faculty member will do more of the task which entails higher monetary incentives. This implies exerting more effort in the form of hard work to achieve higher pay, promotion, and pay raise.

Regarding the anticipated relationships between affection for extrinsic incentives and reward expectancy, we hypothesize that:

*Hypothesis 2: A faculty member’s affection for extrinsic incentives will be positively related to reward expectancy.*

**The Link between Reward Expectancy and Deviant Behavior Likelihood**

When an incentive system is designed to motivate efforts on either a single task, or some dimension of a task in a task bundle, the resultant performance cannot be regarded as efficient (Holbeche, 2005). Moreover, when an activity is associated with one performance index, but not with others, workers may prioritize that activity (Abe, 2007), while neglecting the remaining activities (Springer et al., 2010). The principal’s objective achievement will actually decline when the employees allocate more effort to one task rather than another, due to unequal incentive power for equally important tasks (Werner & Ones, 2000). Thus:

*Hypothesis 3: A faculty member’s reward expectancy will be positively related to the likelihood to either shirk a task or act opportunistically (deviant behavior).*

**The Mediating Role of Reward Expectancy**

Murphy and Margulies (2004) stress the need for aligning performance goals to expected outcomes for better results, which implies that professional agents are generally receptive to financial incentives and will fine-tune their performance accordingly (Young, Beckman, & Baker, 2012). People tend to justify ways to capitalize on their own utility (Kunz & Pfaff, 2002). Several issues related to financial incentives that affect workers' productivity have been identified through theoretical and empirical evidence, such as the “direct price effect” (Gneezy, Meier, & Rey-Biel, 2011; Schaubroeck et al., 2008) and “crowding out effect” (Prendergast, 1999; Frey & Jegen, 2001; Gagné & Deci, 2005). The expectancy that increasing performance-contingent incentives will improve performance rests on two subsidiary assumptions: (1) that increasing performance-contingent incentives will lead to greater motivation and effort, and (2) that this increase in motivation and effort will result in improved performance (Ariely, Gneezy, Loewenstein, & Mazar, 2009). Our focus will be on the first assumption.

Although, conventional economics assumes a positive relationship between effort and performance, there is a wide range of psychological mechanisms that could produce the opposite relationship. These include increased arousal, shifting mental processes from “automatic” to “controlled”, narrowing of attention, and preoccupation with the reward itself (Ariely, Gneezy, Loewenstein, & Mazar, 2009). Incentive pay is by no means a silver bullet to the quick fix of efficiency problems (Figlio & Kenny, 2007) and over a period of time incentives to improve performance could be dampened (Atkinson et al., 2009).

Our results challenge the assumption that increase in motivation would necessarily lead to improvements in performance. Across multiple tasks (with one important exception), higher monetary incentives led to worse performance (Ariely et al., 2009). Performance refers to achievement-related behavior, which has some evaluative component (Motowildo, Borman, & Schmit, 1997). In academic settings performance may be operationalized as presentation of quality in task achievement (Cerasoli, Nicklin, & Ford, 2014).

Providing extrinsic incentives might lead to the perception that behaviors are under the control of rewards, thus lowering down employees’ intrinsic motivation (Cho & Perry, 2012). Extrinsic incentives might displace an individual’s intrinsic motivation (Ims, Pedersen, & Zsolnai, 2014), and induce him or her towards wrong behavior (Shao, Aquino, & Freeman, 2008). Extrinsically motivated behaviors are governed by the prospect of instrumental gain and loss (e.g., incentives) (Cerasoli, Nicklin, & Ford, 2014). Seeking guidance from the literature, we hypothesize that:

*Hypothesis 4: Reward expectancy will mediate the relationship between a faculty member’s affection for* *incentives and the likelihood to either shirk a task or act opportunistically (deviant behavior).*

**Organizational Justice Perception as a Moderator**

Adams (1963) suggests that inequity will urge people to make adaptive responses; both cognitive and behavioral, in a variety of ways. Employees’ perceptions translate into behaviors, which determine their level of performance (Greenberg, 1990). Employee perception of organizational justice has a significant impact on job behavior (Pour Ezzat & Somee, 2009). Low perception of organizational justice is translated into behavioral shortcomings (Frey, Homberg, & Osterloh, 2013). According to Adams (1965), inequity experienced by individuals will motivate them to struggle for the restoration of equity and the magnitude of motivation will be proportionate with the inequity perceived. To restore equity, employees will either modify their behaviors or flee from their previous cognitive mind frame (Thierry, 2002).

Employees tend to uphold fairness in the organizational processes and outcomes based on the decisions flowing out as a result of these processes (Milkovich, 2013; Kuvaas, 2006). Evidence suggests that organizational justice primarily influences one's satisfaction with the outcome in question or the results of any decision (Brockner & Wiesenfeld, 1996) by developing attitude towards work that latter translates into performance outcomes (Cropanzano, 2001). Attitudes guide an individual’s thinking and subsequent actions (Sardžoska & Tang, 2015). Perceptions of inequity will produce low pay satisfaction that will in turn adversely affect an employee’s performance (Harder, 1992; Sweeney & McFarlin, 1997). Providing incentives to employees based on their performance will enhance their reward expectancy, which to some extent depends on maintaining perceptions that the system is valid, fair, and non-political (Perry, Engbers, & Jun, 2009). An individual usually evaluates the perceived ratio of benefits to costs and base his or her action decisions on the expectancy that it will lead to rewards, such as respect, reputation, and tangible incentives (Blau, 1964; Emerson, 1981).

The perception of the organizational justice system can play a moderating role between affection for incentives and reward expectancy as faculty members who have a higher liking for incentives will have a higher expectancy of rewards via willingness to exert considerable effort on tasks that are incentivized. If the organizational justice perception is high, faculty members who have a higher liking for incentives will have higher reward expectancy because they will be sure that their efforts will fetch them the incentives they desire. Similarly, if the organizational justice perception is low the faculty member will have lower reward expectancy because they will be sure that their efforts will not be rewarded commensurate with their efforts. We therefore hypothesize that:

*Hypothesis 5: Organizational justice perception will play a moderating role between an individual’s affection for* *incentives and reward* expectancy*. The higher the organizational justice perception, the greater will be the impact.*

**Conditional Indirect Effect of Affection for** **Incentives on Deviant Behavior Likelihood**

One of the limitations in analyzing the mediation and moderation inferences is that they adopt a piecemeal approach, which raises the issue of how well the parts might fit together when combined in a unitary whole (Grant, 2013). High-power incentives will have an impact on employee workplace behavior through reward expectancy that will be conditioned by the fairness perception of the organizational justice system. It would therefore be useful to obtain a better understanding of the interplay between the organizational systems. Integrating incentives with an employee’s perception about fairness and reward expectancy will fill in the gap in performance. Both, the incentive and performance appraisal systems need to be viewed as an input-output mechanism, which are profoundly embedded in the organizational context. Accordingly, we hypothesize that:

*Hypothesis 6: Organizational justice perception will moderate the indirect effect of employee affection for* *incentives on deviant behavior likelihood. The higher the organizational justice perception, the greater will be the impact.*

All the hypotheses are visually depicted in Figure 1.

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Insert Figure 1 about here

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**METHOD**

To test these hypotheses, a field study was conducted and data were collected through a questionnaire. The aim was to find out the faculty’s perception regarding incentives and organizational justice system, and how these phenomena affect its likelihood towards “opportunistic” and “shirking” behavior at the workplace.

**Sample and Procedure**

Data were collected via survey from 311 faculty members from six universities in Pakistan, using simple random sampling. 500 questionnaires were distributed, but only 311 usable questionnaires were returned, which amounts to a response rate of 62%. This response rate is well above the norm in academic research (Baruch & Holtom, 2008). The sample demographics show that the majority are male faculty members ranging between the ages of 35 and 45, who possess Master’s degrees, have work experience of around 5 to 10 years, and hold the position of lecturers. Most of the respondents have spent 1 to 5 years in their current position. This distribution is representative of the population.

**Measurement**

The survey comprised of four constructs, which include: deviant behavior likelihood, affection for incentives, organizational justice perception, and reward expectancy. These constructs were measured using 21 items on a five-point “Likert-Scale”, where “strongly disagree” was represented by 1 and “strongly agree” by 5. The value of Kaiser-Meyer-Olkin Measure for sampling adequacy was .77, and the Eigenvalue for all the factors was above 1, suggesting strong statistical power (Kaiser, 1960). The reliability of all the constructs used in this study was greater than .70, which is above the threshold level (Bagozzi & Kimmel, 1995). All the constructs were validated to ensure their correct measurement (Nunnally & Bernstein, 1994). The items are marked in Table 1 and provided in full in Table 2. These items were used in subsequent analysis after verification through CFA.

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Insert Table 1 about here

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***Measuring Deviant Behavior Likelihood (DBL).*** A combined pool of 27 items was generated from the literature and discussion with the management that could fit our definition of deviant behavior. Following a review by a panel of 5 experts− who were practicing managers from higher education sector and subject experts, 18 items were retained, representing “shirking” and “opportunistic” behaviors in the academic professionals. The final measurement of DBL was done with 5 items, after conducting a Principal Factor Analysis (PFA) and Confirmatory Factor Analysis (CFA) that are a rational proxy for “shirking “and “opportunistic” behaviors related to teaching and research (see Tables 1 and 2). The reliability of the set of items measuring deviant behavior likelihood was high and accepted as per Nunnaly and Bernstein (1994).

***Measuring the*** ***Affection for Incentives (AI).*** Due to absence of a scale that could serve the purpose of existing study, the faculty’s affection for incentives was measured using an exploratory scale. Six items were used, based on a combination of items extracted from the literature, (Lavy, 2007; Gomez-Mejia & Balkin, 1992; Solmon & Podgursky, 2000; Stilwell, 2003) and items extracted from discussion held with the management of higher education institutions with respect to different incentives extended to the faculty. We obtained the respondents’ affection for incentives (rewards) via 4 items related to the incentives offered for teaching and research activities; as provided in Tables 1 and 2, for measuring the construct.

***Organizational Justice Perception (OJP).***For measurement of the construct of OJP, we employed 7 items from Sweeney and McFarlin (1997) provided in Tables 1 and 2, after conducting PFA and CFA.

***Reward Expectancy (RE).*** RE was measured using items borrowed from Lawler III and Suttle (1973). Three items were retained for final analysis, such as items relating effort to rewards and recognition in the form of high pay, pay raise, and promotion; after conducting PFA and CFA. These items are provided in Tables 1 and 2.

Construct validity for the latent constructs was checked through factorial analysis. We conducted a principal factor analysis (PFA) using oblique rotation to examine the inter-item relationships and also to further delete some items. High factor loading items of .40 and above were retained for high convergent validity (Bennett & Robinson, 2000). All the factor loadings were statistically significant at p < .001, ensuring convergent validity of the constructs.

Discriminant validity was assessed by comparing the variance extracted estimates of each item with the squared inter-construct correlations of that item. We excluded items that had an equal or high cross-loading on two or more factors. CFA was conducted on the items that were retained after PFA and the process terminated with a refined list of 21 items. All correlations were below .85, establishing the discriminant validity of the measurement scales (Kline, 2005). Hence, the four factor solution was supported as empirically distinct constructs.

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Insert Table 2 about here

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For controlling Common Method Bias (CMB), we used the Harman's single factor test and Confirmatory Factor Analysis (Podsakoff, MacKenzie, & Podsakoff, 2003). To rule out the prospects of CMB, the Harmans’ single factor method was utilized by comparing one factor vs. four factors data structure. The total variance using a single factor was 16.97%, much below the threshold level of 50%. The four factors chosen for the study explained a total variance of 40.79 %. Moreover, the Confirmatory Factor Analysis (CFA) indicated that the single-factor model did not fit the data well, with χ 2 (54, N=311) =538.183, p=. 000, GFI=.78, AGFI=. 68, RMR=.09 and NFI=.533. The results suggest that CMB was not an issue. The composite reliability of the factors was also inspected with CFA as suggested by Reuterberg and Gustafsson (1992).

Control variables were generated at the individual and the organizational levels that constituted of age, gender, career stage, and university orientation and reputation, respectively. The means, standard deviations, and inter-item correlations of the study variables are shown in Table 3.

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Insert Table 3 about here

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**RESULTS**

**Mediation Analysis**

Mediation was tested by using Hayes (2013) method via SPSS PROCESS MACRO using the given command:

*PROCESS vars =AI RE DBL/y = DBL/x =AI/m = RE/model = 4/total = 1/effsize = 1/boot = 10000/normal = 1*

Moreover, Sobel testing was also done to confirm the indirect effect as inferred in the mediation model.

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Insert Table 4 about here

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Table 4 shows the results of mediation model. In the first step the bivariate relationship between affection for incentives and deviant behavior likelihood was robust even after the control variables were accounted for, thus supporting hypothesis 1. Next, the effect of affection for incentives and its relation to the mediator (reward expectancy) ̶ denoted by “a”, shows that the affection for incentives has an effect on reward expectancy of the employees, thus supporting hypothesis 2. It was followed by checking the significance of path “b”; supporting hypothesis 3. Next, we tested the effect of the independent variable on the dependent variable in the presence of the mediator. Although, the strength of the coefficient of the independent variable on the dependent variable decreased from b= .61, p<.001 to b= .43, p<.05 after adding the mediator; however, there was no effect on the significance level of the predictor variable on the outcome variable in the presence of the mediator, indicating reward expectancy to be a quasi-mediator.

To examine whether the result significantly decreased, we calculated the indirect effect of affection for incentives on deviant behavior likelihood through reward expectancy. Bootstrapping procedure was used; drawings 10000 random samples from the original sample and generating a bias-corrected 95% bootstrap confidence interval estimates for the indirect effect. The Sobel Test for mediation also confirmed the presence of the indirect effect of affection for incentives on deviant behavior likelihood through reward expectancy that supported Hypothesis 4.

**Moderation Analysis**

To test moderation ̶ as inferred in hypothesis 5, we used the method recommended by Hayes (2013). Moderation was tested via SPSS PROCESS MACRO using the given command:

*PROCESS vars= AI OJP RE Reputation Orientation Career Gender/y = RE/x = AI/m = OJP/model = 1/center = 1/plot = 1/boot = 10000/seed = 34421.*

With the use of this command, the predictor and moderator variables were mean centred to avoid any possible multi-collinearity issues while creating the interaction term. The results of moderation model are displayed in Table 5.

**---------------------------------**

Insert Table 5 about here

**---------------------------------**

The significant interaction term finds support for hypothesis 5, which is depicted in Figure 2, by plotting the relationship between affection for incentives and reward expectancy, at the values of 1 standard deviation above and below the mean of the organizational justice perception, as provided in Table 6.

**---------------------------------**

Insert Table 6 about here

**---------------------------------**

Figure 2 shows that affection for incentives makes more of a difference for people with low organizational perception in effecting their reward expectancy than it does for people with high organizational perception, as the slope for people with high organizational perception vary less. The affection for incentives would thus appear to have less of an impact on the reward expectancy of people with a high organizational perception. The results indicate that the effect of incentives on reward expectancy will be conditioned by the level of fairness of the organizational justice perception, but the later part of hypothesis 5 was not supported, such as when the organizational justice perception is higher, the conditional effect of affection for incentives on reward expectancy is lower and vice versa.

**---------------------------------**

Insert Figure 2 about here

**---------------------------------**

**Moderated-Mediation Analysis**

Recently, methodologies have suggested combining the “how” and “when” to get a broader picture of what is happening (Hayes, 2013). Such a combination can be done in either a moderated-mediation model, or mediated-moderation model, or conditional process modelling (Preacher, Rucker, & Hayes, 2007; Fairchild & Mackinnon, 2009). Moderated-mediation was tested as suggested by Hayes (2013) via SPSS PROCESS MACRO using the given command:

*PROCESS vars = AI RE DBL OJP Reputation Orientation Career Gender/y = DBL /x = AI/m = RE/w = OJP/model = 7/center = 1/boot = 10000/seed = 34421*

The indirect effect of affection for incentives on deviant behavior likelihood through reward expectancy is modelled as moderated in the first stage by organizational justice perception. The direct effect of affection for incentives on the deviant behavior likelihood is modelled as unmoderated. The regression output for the conditional process model is provided in Table 7.

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Insert Table 7 about here

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The indirect effect of affection for incentives on deviant behavior likelihood through reward expectancy is the product of two effects ̶ one is conditional and the other unconditional. As one of the components of the indirect effect is conditional, therefore, the indirect effect is also conditional. There is no single numerical estimate of the conditional indirect effect that can be used to characterize this process (Hayes, 2013), rather the value of the conditional indirect effect can be obtained by plugging in the values of W from Table 8 into the equation ѳ X→M b= (a1+a3) W. Table 8 shows that the indirect effect of X on Y through M, which is conditioned by W, is consistently decreasing as the value of W increases. The consistently decreasing trend of the conditional indirect effect with the variable values of organizational justice perception shows that the effect has not happened by chance. The conditional indirect effect is a stronger test for the moderation effect because it tests the moderation effect at different values when the variables are at their means (Walker & Florea, 2014). The output in Table 8 supports hypothesis 6, thus rejecting the null hypothesis.

Moderation suggested in hypotheses 5 and 6 was only partially supported. Hypothesis 5 suggested a moderation where the higher the organizational justice perception, the greater will be the impact. As can be seen from Table 6, the regression results do not support this. The conditional effect seems to become weak, as OJP of the employees change from unfair to fair. The effect decreases from 0.61 to 0.38 as OJP becomes fairer. However, all the effects are highly significant at 95% Bootstrapping Confidence Interval (BCI), as none straddle a zero. Thus, the regression effect is strongest at the low level of OJP. This strong regression effect is indicated by the lower line in Figure 2. The inferential testing also supported hypothesis 6, but partially, as the latter part of hypothesis 6, which suggests that the higher the organizational justice perception, the greater will be the impact, has not been supported. The conditional indirect effect of AI on DBL is consistently significant at a 95% BCI because none of the values straddle a zero, but the effect is decreasing with an increase in the OJP, as opposed to what was inferred, such as the higher the OJP, the greater will be the indirect impact; proved to be the opposite. These values can be seen in Table 8.

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Insert Table 8 about here

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**Structural Equation Modelling**

The structural equation model was tested using AMOS version 21 with maximum likelihood procedures to check for the overall model fit. The χ 2 (47) = 84.17, p <.001, GFI= .99 CFI= .98, RMSEA= .05, SRMR= .05 suggested a good fit for the overall model. Affection for incentives predicted deviant behavior likelihood (Hypothesis 1), affection for incentives predicted reward expectancy (Hypothesis 2); deviant behavior likelihood, in turn, was predicted independently by reward expectancy (Hypothesis 3); and the relationship between affection for incentives and deviant behavior−while still significant, dropped after inclusion of reward expectancy. In support of mediation (Hypothesis 4), model fit was χ 2 (39) = 71.123, CFI= .98, SRMR= .07 and the chi-square difference test showed that this was a significant decrease χ 2 (8) =84.170, p= .01. Finally, the interaction between affection for incentives and organizational justice perception was negative; however, significant to predict reward expectancy (Hypothesis 5). Lastly, the model also qualified the test for parsimony as the PRATIO was .67, which was above the threshold level of .60 (Blunch, 2010).

Using path estimation in AMOS, all the relationships were highly significant. The standardized coefficients show that the effect of affection for incentives on reward expectancy is considerably strong with a regression weight of .60. The effect of affection for incentives is also greater on deviant behavior likelihood with a regression weight of .44 as compared to reward expectancy.

**DISCUSSION**

The study found support for the theoretical model of affection for incentives and deviant behavior likelihood, where affection for incentives directly predicted deviant behavior likelihood and reward expectancy acted as a mediator. Organizational justice perception also contributed towards the effect of incentives on reward expectancy. The overall goodness fit of the model provided an integrated approach towards establishing a causal mechanism for deviant behavior likelihood. The hypotheses were supported, apart from the latter part of hypotheses 5 and 6.

This research enhances the understanding of use of high-power incentives and deviant behavior in professional agents. Our research challenges the assumption that providing monetary incentives to the employees will always result in better performance. It might even lead to unequal distribution of effort between tasks, which are of equal value to the organization.

**Theoretical Contribution**

The study has important contribution towards the literature of agency theory and motivation theories, as the moderated-mediation model explains how the indirect effect varies with the different levels of moderation. First, we constructed a theoretical framework that eclectically blends important features of the organization system into a single model. Second, finding out causality between incentives and reward expectancy has highlighted the difficulty in outcome based contracts in the principal-professional exchanges. The agency theory generally assumes that an agent's behavior can be either controlled by monitoring mechanism or by providing incentives−contingent upon the nature of the task and the cost factor to the principal (Gneezy et al., 2011). Our analysis has questioned both mechanisms for professional agents due to measurement complications and also because professionals have more autonomy in their work. Organizations’ reliance on self-managed employees to utilize their autonomy and tacit knowledge has increased, due to the changing nature of work (Currall, Towler, Judge, & Kohn, 2005; Thomas et al., 2013). Professionals require more work-related autonomy, creating a need of imposing external controls (Young et al., 2012). Ideally incentives should empower employees while at the same time render the organization what it expects from the employees. Yet, our findings relating to the effects of performance-related ﬁnancial incentives on the motivation level and performance of academic professionals suggest that other mechanisms influence decision making.

Incentives do not function the way they do in other agency exchanges, as the teachers’ incentives are focused on the outcomes and not their behavior (Hansen, 2009). The findings confirm the basic assumption of agency theory in a non-western culture that agents are “opportunistic” and whenever they get a chance they will maximize their benefits, as suggested by Eisenhardt (1989). Third, this study addresses agency theorists not only to consider professional agency exchanges from an economic perspective, but also from a behavioral perspective. We show that employee perception plays a pivotal role in behavioral changes of an employee‒an area that has lacked empirical research in the context of incentives as well as in academe context (Manly, Leonard, & Riemenschneider, 2015). Fourth, we have identified a significant deficiency in the design of incentive system for the educators.

From a theoretical lens, motivational theories posit that when systems are fair; from both procedural and distributive justice perspectives, individuals will be less tempted towards opportunistic behavior. Therefore, when perception is categorized, the expected result upon agency relationship will be either adverse or advantageous. We showed that when the perception of organizational justice is low, the conditional effect of incentives on reward expectancy is stronger and vice versa. Incentives have a significant impact on reward expectancy, and it is also a generic stance of the previous researchers. Our results are intriguing when linked with the conditionality of organizational justice perception. When employees are able to establish a cognitive link between their efforts, performance, and rewards, they will be motivated to perform according to the expectancy of the principal (Mills, Bratton, and Forshaw, 2006; Redmond, 2013). Our findings suggest a slight revision of the basic premise of equity theory, which posits that employees perceive a state of inequity if their input/output ratios do not match. What this theory fails to acknowledge is the necessity to go beyond matching employees’ inputs to outputs. It is important to consider situations when equity prevails, and yet, employees choose to perform unethical acts that reduce their efficiency. The simple explanation provided by equity theory thus ignores the “utilitarian” nature of the agents.

By showing a highly significant positive relationship between affection for incentives and likelihood of employees to engage in deviant behavior at workplace, we support the crowding out effect of economic incentives as proposed by (Gneezy et al., 2011). We also agree with the viewpoint of social psychologists about the “hidden costs of rewards” (Frey & Jegen, 2001).

**Practical Implications**

These findings may be relevant for dealing with professionals, particularly with academicians. The conclusions that monetary incentives have a direct, indirect, and a conditional indirect effect on deviant behavior is of immense use for the higher education sector, in specific, and other sectors in general. To understand the role of incentives from the perspective of different stakeholders, we must first understand their cognitive frames. The management must attend to the employees’ dispositional characteristics that can prevent or reduce deviant behavior (Beauregard, 2014). In the context of academe, incentives must encourage the faculty to publish in well reputed journals and not just use it as a tool of inflating its publication count. The impetus for targeting worthy journals, for example, should be derived from academic intrinsic motives, fueled by academic leadership rather than regulatory processes (Neubert, Wu, & Roberts, 2013). Employees should not be treated as instruments and motivated by monetary incentives alone (Ims et al., 2014). We need to look at human behavior from a holistic perspective.

Personality testing can also be helpful in identifying individuals with affection for incentives, followed by training interventions to help improve their quality of thinking (Li, Barrick, Zimmerman, & Chiaburu, 2014). To minimize unethical behavior, leaders should weaken factors that might tempt employees towards adverse behaviors (Shao et al., 2008), and manifest the dark side of academic careers (Baruch & Vardi, 2016).

The foundations of organizational justice system can be reinforced by incorporating fair performance appraisal practices, linked to other HR practices. Similarly, the incentive system must be woven into the overall fabric of the compensation system and the total HR strategy (Milkovich, 2013). Equity considerations are important antecedents of individual behavior in organizations. Equitable payment to the employees will result in concentrated effort in job performance, rather than being distracted by monetary incentives (Luna-Arocas & Tang, 2015). Incentives should motivate the faculty for producing the right type of performance output. This can be accomplished by selecting measures that are correlated with the true objectives of higher education, instead of the university’s objective−whenever the two are in conflict. Considering a holistic perspective offers a different way to design incentive systems.

**LIMITATIONS AND RECOMMENDATIONS**

The data were cross-sectional, which makes it difficult to draw causal linkages between the variables of choice. Future research can modify or extend this research along several dimensions by incorporating other variables, such as personality traits, emotional intelligence, cultural variables, etc., thus, casting a wider net around the phenomena or problem of deviant behavior. Moreover, the variables identified in the theoretical framework are likely to interact with each other. Future studies may seek to address these issues.

**CONCLUSIONS**

The main contribution of the study is focus on the complexity of using high-power incentives in academic professionals. Explicit incentives can at times cause deviant behavior in employees by channelizing their effort towards tasks that have less or no contribution to the organizational goals; however, increasing their personal benefits. Scholars have always disputed the use of extrinsic incentives for employee motivation, but rarely anyone has dug deeper into the problem. Behavioral problems in employees can be fueled by the use of high-power incentives if the design is defective and the context is overlooked. The current study has confirmed the results of previous research in a collectivist culture. The effects of direct, indirect, and a conditional indirect effect of employee affection for incentives on deviant behavior likelihood show that the problem of deviant behavior can be triggered in employees due to improper design of incentives. The study cautions managers and policy makers about providing high-power incentives in the academic sector (Schwartz, 2009). The widespread use of incentives and generic nature of the constructs used in this model makes it readily applicable to other sectors.

We hope this study will urge agency theorists, behavioral theorists, and empirical researchers, to work more earnestly on the issues of incentives and deviant behavior in professional agents. We call for further scrutiny of agency theory from a behavioral perspective, in particular, how critical it is to employ extrinsic incentives.

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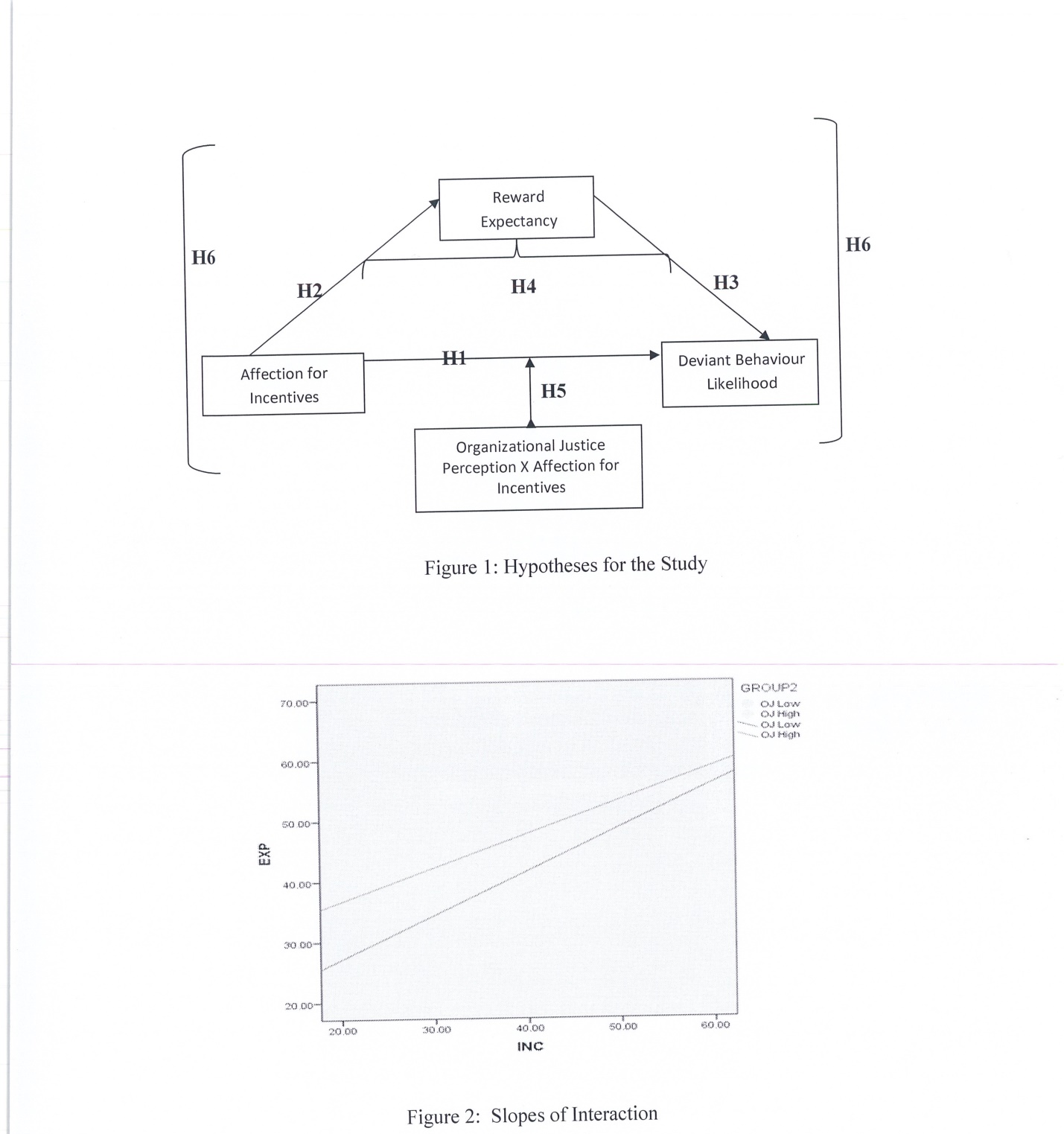


Table 1: Results of factor analysis on the construct items (N=311)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables/Items** | | **F1** | **F2** | **F3** | **F4** |
| **Organizational Justice Perception (OJP)** | OJP 1 | **.746** | .440 | .223 | -.221 |
|  | OJP 2 | **.719** | .133 | -.191 | -.081 |
|  | OJP 3 | **.714** | .275 | .292 | -.303 |
|  | OJP 4 | **.699** | .194 | .033 | -.133 |
|  | OJP 5 | **.646** | .322 | .144 | -.170 |
|  | OJP 6 | **.640** | .221 | .061 | -.210 |
|  | OJP 7 | **.560** | .380 | .162 | -.193 |
| **Affection for Incentives (AI)** | AI 1 | .151 | **.791** | .279 | -.211 |
|  | AI 2 | .055 | **.617** | .096 | -.055 |
|  | AI 3 | .189 | **.580** | .251 | -.044 |
|  | AI 4 | .177 | **.578** | .206 | -.262 |
|  | AI 5 | .222 | **.572** | -.071 | -.033 |
|  | AI 6 | .270 | **.548** | .188 | -.178 |
| **Reward Expectancy (RE)** | RE 1 | .112 | .276 | **.838** | -.099 |
|  | RE 2 | .159 | .213 | **.822** | -.199 |
|  | RE 3 | .110 | .189 | **.757** | -.256 |
| **Deviant Behavior Likelihood (DBL)** | DBL 1 | -.078 | -.015 | .266 | **-.951** |
|  | DBL 2 | -.045 | .187 | .056 | **- .947** |
|  | DBL 3 | -.199 | .139 | .236 | **-.588** |
|  | DBL 4 | -.201 | .202 | .161 | **-.574** |
|  | DBL 5 | .160 | .109 | .146 | **-.572** |
| Cumulative Percent |  | 20.97 | 28.75 | 35.03 | 40.79 |
| \* Extraction Method: Principal Component Analysis  \*Rotation Method: Oblimin with Kaiser Normalisation (Kaiser-Meyer-Olkin Measure= .77) | | | | | |

Table 2: **Scale/Item Scale (N=311)**

|  |
| --- |
| **Deviant Behavior Likelihood (Cronbach’s alpha= .81)** |
| DBL 1. Including names in publications without contribution is an academic sin.  DBL 2. Punctuality is not strictly observed.  DBL 3. Supervising research students is not as important as one's own research.  DBL 4. I am more comfortable using the traditional teaching approach.  DBL 5. Preparing class lectures is not important for effective teaching. |
| **Affection for Incentives (Cronbach’s alpha= .73)** |
| AI 1. Financial rewards are important to motivate teachers to work harder.  AI 2. I take extra classes for extra remuneration.  AI 3. I do not mind working on off days if I receive financial rewards.  AI 4. I like teaching because of financial incentives.  AI 5. Incentives are important for research and publications.  AI 6. I like to publish as it can help in my career advancement. |
| **Organizational Justice Perception (Cronbach’s alpha= .82)** |
| OJP 1. The procedures used to evaluate my performance have been fair and objective.  OJP 2. There are adequate procedures to get my performance rating reconsidered, if necessary.  OJP 3. I understand the performance appraisal system being used in this organization.  OJP 4. I will be demoted or removed from my position, if I perform my job poorly.  OJP 5. Promotions or unscheduled pay increases here usually depend on how well a person performs on his/her job.  OJP 6. Performance appraisals do influence personnel actions taken in this organization.  OJP 7. I am told promptly, when there is a change in the policies or rules and regulations that affects me. |
| **Reward Expectancy (Cronbach’s alpha= .88)** |
| RE 1. My hard work will fetch me rewards or recognition.  RE 2. My hard work will fetch me pay raise.  RE 3. My hard work will fetch me promotion. |

Table 3

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mean, Standard Deviation & Inter-Item Correlation Matrix** | | | | | | | | | | |
|  | Mean | S.D | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. Gender | 1.38 | .50 | --- |  |  |  |  |  |  |  |
| 2. Career stage | 2.06 | 1.19 | -.23\*\* | **(.81)** |  |  |  |  |  |  |
| 3. University Orientation | 1.94 | .70 | -.15\* | .24\*\*\* | --- |  |  |  |  |  |
| 4. University Reputation | 1.72 | .45 | -.06\*\* | .15\*\* | **(.83\*\*)** | --- |  |  |  |  |
| 5. AI | 3.40 | 1.21 | -.16\* | .10 | .32\*\* | .39\*\* | **(.73)** |  |  |  |
| 6. OJP | 3.05 | .43 | -.16\* | .23\*\* | .80\*\* | .80\*\* | .39\*\* | **(.82)** |  |  |
| 7. RE | 2.82 | .31 | -.17\* | .07 | .45\*\* | .45\*\* | .63\*\* | .58\*\* | **(.88)** |  |
| 8. DBL | 3.03 | 1.08 | -.14 | .03 | .16\* | .20\*\* | .60\*\* | -25\*\* | .54\*\* | **(.81)** |
| Correlation is significant at \* p < .05, \*\* p < .01, \*\*\* p < .001 | | | | | | | | | | |

The numbers in parentheses on the diagonal are the Cronbach α coefficients

Table 4

**Regression Output for Mediation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **β** | **Sε** | **B** | **t** |
| **(X→Y) Dependent Variable (Deviant Behavior Likelihood)** | | | | |
| α1 | 11.65 | 2.59 | --- | 4.50 |
| X | 1.02 | .07 | .61 | 13.78\*\*\* |
| R2= .38 | F= 89.88\*\*\* | | | |
| **(X→M) Dependent Variable (Reward Expectancy)** | | | | |
| α2 | 45.73 | 3.56 | --- | 12.85 |
| X (a) | .79 | .05 | .64 | 14.72\*\*\* |
| R2= .41 | F= 216.77\*\*\* | | | |
| **(M׀X→Y) Dependent Variable (Deviant Behavior Likelihood)** | | | | |
| α3 | 41.22 | 3.53 | --- | 11.68 |
| M (b) | .39 | .07 | .29 | 5.16\*\*\* |
| X | .71 | .09 | .43 | 7.68\*\*\* |
| R2= .43 | F=116.11\*\*\* | | | |
| Outcome variable (Deviant Behavior Likelihood)  N=311, \*p<.05,\*\*p<.01,\*\*\*p<.001 | | | | |

Table 5

**Regression Output for Moderated**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vars** | | **β** | **sε** | **B** | **t** | **β** | **sε** | **B** | **t** | **β** | **sε** | **B** | **t** |
| X | .79 | | .05 | .64 | 14.72\*\*\* | .56 | .05 | .45 | 11.49\*\*\* | .50 | .05 | .41 | 9.80\*\*\* |
| W |  | |  |  |  | .95 | .08 | .47 | 12.01\*\*\* | .94 | .08 | .47 | 11.99\*\*\* |
| XW |  | |  |  |  |  |  |  |  | -.03 | .01 | -.12 | -3.19\*\* |
| Adj.R2 = .41  F= 216.77\*\*\* | | | | | | Adj.R2 =.60  F= 230.81\*\*\* | | | | Adj.R2 =.61  F= 161.87\*\* | | | |
| ∆ R2 = .41 ∆ R2 = .19 ∆ R2 = .01 | | | | | | | | | | | | | |
| **Dependent variable (Reward Expectancy=M**)  N=311, \*p <.05, \*\*p<.01, \*\*\*p<.001 | | | | | | | | | | | | | |

Table 6

**Conditional Effect of X on M at Values of W**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **OJP** | **Effect (B)** | **p** | **BootLLCI** | **BootULCI** |
| ML | -3.79 | .61 | .000 | .52 | .73 |
| MM | .00 | .50 | .000 | .40 | .60 |
| MH | 3.79 | .38 | .000 | .23 | .52 |

Mean, + 1 S.D, -1 S.D

Table 7

**Regression Output for Conditional Process Model**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Vars** | **Coeff.** | **Sε** | **t** | **LLCI** | **ULCI** |
| **Step 1 Dependent Variable (Reward Expectancy)** | | | | | |
| a1 | .50 | .05 | 9.81 \*\*\* | .40 | .60 |
| a2 | .94 | .08 | 11.99 \*\*\* | .78 | 1.09 |
| a3 | -.03 | .01 | -3.19 \*\* | -.05 | -.01 |
| α1 | 49.79 | .29 | 173.12 \*\*\* | 49.22 | 50.36 |
| R2=.61 | F(307)= 161.87 \*\*\* | | | | |
| **Step 2 Dependent Variable (Deviant Behavior Likelihood)** | | | | | |
| **c′** | .71 | .92 | 7.68 \*\*\* | .53 | .89 |
| b | .39 | .07 | 5.16 \*\*\* | .24 | .53 |
| α2 | 75.20 | 3.74 | 20.10\*\*\* | 67.84 | 82.56 |
| R2=.43 | F(308)=116.11 \*\*\* | | | | |
| N=311, \*p <.05, \*\*p<.01, \*\*\*p<.001 | | | | | |

Table 8

**Conditional Indirect Effect of X on Y at Values of W**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | OJP | Effect (B) | Boot sε | BootLLCI | BootULCI |
| ML | -3.79 | .24 | .05 | .15 | .35 |
| MM | .00 | .18 | .05 | .12 | .30 |
| MH | 3.79 | .15 | .05 | .06 | .27 |

Mean, + 1 S.D, -1 S.D