

Explaining Doctors' Work Values from Personality Traits and Hospital Characteristics

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Present study explored the relationship of personality traits and hospital characteristics with work values of junior doctors in the context of public and trust hospitals. NEO-Five Factor Inventory (Costa & McCrae, 1992), Hospital Characteristics Questionnaire (Tepeci, 2001), and Work Values Questionnaire (Elizur, Borg, Hunt, & Beck, 1991) were administered on a sample of 200 junior doctors. Personality traits explained Cognitive, Affective, and Instrumental work values of junior doctors working in the trust-hospitals more robustly (27% - 50%) than those in the public-hospitals (11% - 14%). Agreeableness and Conscientiousness emerged as the major personality traits in all doctors. However, Quality of service and Compensation/benefits, as hospital characteristics, were perceived as salient to trust-hospitals more than public-hospitals in influencing work values.

Keywords: Work values, personality traits, hospital characteristics.

Interest in the role of work values has engaged researchers a good deal in the last two decades in the context of privatization, acquisition, and expansion of organizations. Work values have been studied as a variable influencing behavior such as job satisfaction, organizational commitment, and productivity (Elizur, 1984, 1996; Elizur, Borg, Hunt, & Beck, 1991). Work settings are a potent source of learning work values. Elizur (1984) defined work values as importance assigned to various work outcomes. These values are influenced by organizational characteristics, external contingencies, day to day events, and expectations set for the employees.

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Psychologists have studied work values across organizations and countries. Hofstede's (1993) seminal work on culture and work related values and their managerial implications stimulated a lot of research interest among industrial/organizational psychologists. In this study, however, we draw upon the work of Elizur (1991) who identified three types of outcomes that workers usually hold important namely, a) *Instrumental* values i.e., financial matters and working conditions such as pay, work hours, work conditions; b) *Affective* values such as relationship with colleagues, supervisors; and c) *Cognitive* values, that is influence and advancement in career through interest, achievement, and responsibility. Individual workers may carry a combination of these or a preponderance of any one in their work engagements.

Personality variables have yielded a large variance in explaining work behavior such as productivity in work settings bearing different conditions. Barricks and Mount (1993), for example, found that amount of autonomy represented a situational constraints such that when there was low autonomy (a strong situation) personality traits did not predict performance because there was little variability in behavior. In contrast, when there were several ambiguous demands (a weak situation) individuals had considerable discretion to engage in behaviors that were in accordance with their personality traits. In a similar investigation, Gellately and Irving (2001) found that positive relations were found between personality dimensions and supervisory ratings of managers' performance under the moderating role of work-autonomy as an organizational characteristic. Bem and Allen (1974) held that all behavior is a function of situation characteristics and personality traits and both can potentially facilitate or constrain behavioral expression. Schneider (1987) in this context proposed Attraction-Selection-Attrition (ASA) framework based on the fact that organizations are functions of the kind of people they contain. He asserted that people behave the way they do; they were attracted to certain environment; and they stayed there.

Trait model of personality has been widely used in organizational context (Barricks & Mount, 1993; Gutierrez, Jimenez, Hernandez, & Puente, 2005). McCrae and Costa (as cited in Costa & McCrae, 1992) defined personality as enduring, emotional, interpersonal, experiential, and attitudinal style that explained behavior in different situations. Their Five Factor Model (FFM) measured: *Extraversion* (sociable, active, energetic), *Emotional Stability* (calm, secure, unemotional), *Agreeableness* (cooperative, considerate, trusting), *Conscientiousness* (dependable, organized, and persistent), and

Openness to experience (imaginative, intellectual, and artistically sensitive). These factors predicted a number of job outcomes including performance. For example, Dormann and Zapf (2001) observed that individuals high on Openness may seek out jobs with variety, novelty, and opportunity for learning. Conscientiousness has been found to show the most robust and consistent correlation with performance across all jobs and settings (Judge, Higgins, Thoresen, & Barrick, 1999). Emotional stability has also been found to relate with overall performance on many if not all jobs.

In fact, work settings determine choices individuals make about tasks they engage in. System of operations and source of funding are two major situational characteristics differentiating organizations as public, private, and welfare (nonprofit). These characteristics induce different style of work. State organizations are assumed to cater to different parameters of performance than the privately managed nonprofit organizations sponsored by trust and charity funds, leading to different work experiences of workers, and corresponding work values they exhibit. Resources and mission of different organizations have characteristically influenced system of governance and productivity of people in the organizations (e.g., Kresner & Ullman, 1965).

In Pakistan, currently there is a heavy agenda about privatization of organizations to make them more efficient and result oriented. The big metropolitan hospitals, in the public sector have been recently allowed greater autonomy and a system of self-management to deliver better services which are otherwise driving people to the expansive private hospitals. Some nonprofit/privately managed trust-hospitals in Lahore provide a parallel to the big government hospitals and these hospitals enjoy better reputation among the middle class section of the society than the public-hospitals. They are managed by autonomous boards and can be loosely called nongovernment/welfare units popularly considered as a mid-way between the expansive private and the inefficient public-hospitals. Numerous studies world-wide have shown that differences in quality of care arise from ownership. In a comparative study of public-welfare hospitals (both nonprofit), Helming and Lapsley (2001) computed hospital efficacy score through data elopement analysis with the assistance of Federal Statistics Office of German Hospitals. They found that the two hospitals have different best practice frontiers and use their Medicaid funds differently. Even state medical insurance companies are contracting nongovernment hospital providers for health services. Several countries have adopted Private-Public Partnerships (PPPs)

programs in the health sector to reach the poor (Roy, 2003).

We assume that the public and trust hospitals as two types of organizations showcase different work climate and correspondingly attract workers of different dispositions. The personality characteristics and organizational climate together determine different work values of the staff. This study mainly explores person-organization interaction which shapes out work values and productivity in the context of public versus trust (nongovernment) hospitals dichotomy. The following assumptions were made:

1. Doctors in public-hospitals can be differentiated from their counterparts in trust (nongovernment) hospitals in terms of their personality traits, hospital characteristics, and work values.
2. The personality traits and hospital characteristics influence work values of doctors working in trust managed hospitals more than in the case of public-hospitals.
3. Supervisory ratings on job performance as an independent criterion would correspond with strength of personality traits, their workplace characteristics, and work values of the trust managed hospitals more than in the public sector hospitals.

Method

Sample

A systematic random sample of 200 junior doctors (medical officers) was drawn --- 100 each from the roll of public (government; including Services Hospital and Ganga Ram Hospital) and trust-hospitals (nongovernment; Ittefaq Hospital and Sharif Medical City) that had served their organization for 1-3 years and were in the age range of 25-32 years. Human resource cell of the respective hospitals provided the list of doctors who were on their roster on outdoor medical service in July 2006. Every third doctor on the list of public-hospital and two after every three persons from the list of trust-hospitals were selected as participants. Women comprised 36% of the sample. The two types of hospitals were comparable in size, infrastructure, and medical services¹. The medical superintendents of

¹ Services Hospital and Ganga Ram Hospital of public sector had 875 beds, 13 operation theaters, and 63 wards; the corresponding figures are 453 beds, 8 operation theater, and 41 wards for Ittefaq Hospital and Sharif Medical City of the nongovernment/trust hospitals.

the trust-hospitals and senior medical officers /registrars in the public-hospitals rated the job-performance of the junior doctors.

Instruments

Work Values Questionnaire (WVQ). It is a widely used instrument for measuring work values in organizational contexts. Elizur (1984) based this questionnaire on theories of motivation. It requires respondents to indicate, on a 6-point scale (*very important* = 6, *very unimportant* = 1), how important each of the 24 items is to them. The items are classified into three categories: *Instrumental* work values (pay, hours of work, security, benefits, and work conditions). *Affective* work values include items related to relations with supervisor, coworkers, recognition, esteem, and opportunity to interact with people. *Cognitive* work values include items related to job responsibility, advancement, achievement, influence, interest, feedback, and meaningful work, use of abilities, independence, company, status and contribution to society. In a cross-cultural survey, Elizur et al. (1991) found similar factor structure in eight different countries (U.S.A., China, Korea, Taiwan, Germany, Holland, Hungary, and Israel) supporting framework of work values as a universal one. Ali and Kazemi (2005) reported Cronbach alpha of WVQ as .92. The alpha reliability of WVQ on the current data ($N = 200$) is .86. The same for WVQ factors is .79, .54, and .61 for Cognitive, Affective, and Instrumental work values, respectively.

NEO-Five Factor Inventory (NEO-FFI). It has been used as a research instrument in a number of organizational behavior studies (Judge, Heller, & Mount, 2002; Nasurdin & Kumaresan, 2002). *Form-S* of the inventory, comprising 60 items was used for measuring personality traits, commonly called The Big Five personality domains, *Neuroticism*, *Extroversion*, *Openness to experience*, *Agreeableness*, and *Conscientiousness* (Costa & McCrae, 1992). The model provides a systematic assessment of emotional, interpersonal, experiential, attitudinal, and motivational styles of a person. Responses are elicited on a scale ranging from (1) *Strongly Disagree* to (5) *Strongly Agree*. Internal consistency values for the NEO-FFI Form-S scales have been found to range from .68 to .86 (Costa & McCrae, 1992). The current alpha coefficient of NEO-FFI is .87 and the same for its factors is .14, .47, .36, .42, and .43 for Neuroticism, Extroversion, Openness to experience, Agreeableness, and Conscientiousness, respectively.

Hospital Characteristics Questionnaire (HCQ). It is an adaptation of Perceived Organizational Culture Questionnaire (POCQ) that measures perceived organizational characteristics, preferred organizational culture, and person-organization fit in hospitality organizations. Developed by Tepeci (2001) the 14 item questionnaire assesses the perceived organizational characteristics on three dimensions including *Quality of services, Training and development opportunities, and Compensation/benefits and human resource practices.* It is responded on 5-point scale (*High = 5, Low = 1*) indicating degree of existence of a characteristic as judged by the doctors participating in the study. The HCQ was suitably adapted for this study in consultation with senior doctors and administrators of the hospitals to make the contents valid and relevant to our hospital systems e.g., medical treatment is not covered by insurance or employer in Pakistan as popularly as in the West or patients may not necessarily report nearby hospital and instead freely choose a hospital on their own.. The alpha reliability of HCQ on the current data is .68. The alpha of HCQ factors are .24, .30, and .37 for Quality of services, Training and development opportunities, and Compensation /benefits and human resource (HR) practices, respectively.

Appraisal Rating Form (ARF). It was indigenously developed for this study to evaluate the performance of junior doctors through the senior medical doctor supervising their work on a general statement: How much are you satisfied with the overall performance of this doctor (working under you) on : (a) Skill, (b) Duty, and (c) Sense of patient care? Five-point Likert scale, ranging from (5) *Very Satisfactory* to (1) *Very Unsatisfactory* was employed to rate component a, b, and c of the ARF. The form showed name of the doctor and his/her medical unit for identification purposes.

Procedure

Data was collected through HR department of the hospitals. The doctors selected from the doctors' list for out-patient service were contacted individually to obtain their consent for participating in this study. Earlier the HR department had endorsed our request for data collection. The participants were briefed about the task in groups of 4 to 6 in their medical units in the morning working hours and were requested to fill up the questionnaires in their spare time within two days and return it to the researchers directly. The medical superintendent supervising the respondent junior doctors were

requested to evaluate the performance of respondent doctors working under them on the prescribed appraisal form.

Results and Discussion

Independent sample *t*-test was run to compare scores of doctors in public and trust-hospitals on all the three scales (Table 1). Results are reported along factors of these scales.

Table 1

Comparisons Between Doctors of Public and Trust Hospitals on Psychological Variables (N = 200)

Variables	Public (n = 100)		Trust (n = 100)		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Work Values					
Cognitive	69.92	8.41	57.63	9.04	9.94**
Affective	23.52	4.34	19.49	3.76	7.01**
Instrumental	23.50	5.34	18.40	3.37	8.06**
Hospital Climate					
Quality of services	18.18	6.28	17.52	4.33	0.86
Training/development	11.67	2.65	13.01	2.58	3.61**
Compensation/benefits	11.83	2.12	13.75	3.01	5.20**
Big Five Traits					
Neuroticism	31.12	4.10	33.14	4.30	3.39*
Extraversion	40.22	7.02	35.92	4.41	5.18**
Openness	39.85	5.70	35.77	4.99	5.38**
Agreeableness	39.28	5.22	36.21	5.13	4.19**
Conscientiousness	39.73	5.25	35.37	5.34	5.81**

df = 198. * $p < .01$. ** $p < .001$.

Table 1 shows the difference between the mean scores of the trust and the public-hospitals' doctors were significant on the Big Five personality traits ($t = 3.39 - 5.81$, $p < .01 - .001$), on two of the three organizational characteristics ($t = 3.61 - 5.20$, $p < .001$) and on all the three work values ($t = 7.01 - 9.94$, $p < .001$). It broadly supported our supposition that trust managed medical service is

distinct from the public on several parameters including personality of the people working there as well as organizational characteristics as system of management, quality of service, pay and benefits competitiveness etc. Doctors of the public-hospitals scored consistently higher on personality scales whereas those of trust-hospitals perceived Training/development and Compensation/benefits aspects of their organizational characteristics higher than what the public sector doctors perceived about their hospitals.

Table 2

Regression Analysis for Personality Traits Explaining Various Work Values in Public and Trust Hospitals (N=200)

Variables	<i>B</i>	<i>SE</i>	β	<i>R</i> ²
Cognitive				
Public				
Conscientiousness	.530	.150	.331**	.110
Trust				
1. Conscientiousness ^a	.847	.146	.516***	.267
2. Conscientiousness ^b	.737	.146	.435***	.337
Extraversion	.570	.177	.278**	
Affective				
Public				
1. Conscientiousness ^a	.311	.077	.376***	.142
2. Conscientiousness ^b	.226	.084	.277**	.185
Agreeableness	.194	.085	.233*	
Trust				
Conscientiousness	.210	.068	.298**	.089
Instrumental				
Public				
Agreeableness	.294	.099	.288**	.083
Trust				
1. Openness ^a	.225	.064	.333**	.111
2. Openness ^b	.194	.064	.287**	.170
Agreeableness	.162	.062	.247***	

Note. Only significant results are reported.

^a Model-I; ^b Model-II.

* $p < .05$. ** $p < .01$. *** $p < .000$.

These findings keep with those of Furnham, Petrides, Tsaousis, Pappas, and Garrod (2005), who observed that Conscientiousness, was the best predictor of work values in most work settings. Conscientious persons are organized, dependable, persistent, and confident, therefore, the trait of Conscientiousness is related with Cognitive work values (influence and advancement) more than with relationship or financial/instrumental i.e., pay/compensation work value. The Cognitive work values are partly explained by Extraversion as well, in the trust sector, though to a relatively less degree. Extroverts are energetic, outgoing, and assertive and trust-hospital environment is probably more attuned to these behaviors supporting career advancement.

Affective work values are characterized with Agreeableness personality trait in the public sector whereas Conscientiousness i.e., dependability, persistence, and confidence, characterized the same values in trust-hospitals. Obviously, Conscientiousness would be a more relevant disposition to the tasks and standard of health services than that of Agreeableness. Moreover, trust-hospitals as a generally medium size organization could monitor Quality of service more effectively than the big public-hospitals with their traditionally low level of efficiency. Agreeableness also explained Instrumental values (pay, benefits, and security concern) more strongly in public sector hospitals than in trust-governed hospitals. Alternatively, Openness to experience as a trait explained the same in the trust-hospital. An attitude of openness encourages innovativeness and experimentation which is usually unheard of in the traditionally conservative public sector (Bartel & Harrison, 1999).

Thus, we find an alignment of personality traits with the hospital characteristics that supports what appears to be a general image of trust-hospitals as a system offering efficient and affordable medicare than a more agreeable and modestly conscientious medical force of a public-hospital apathetic to changes and prone to status quo. Rainey and Bozeman (2000) argue that goal ambiguity and organization structure of large public-hospitals make them less efficacious and less productive, compared to typically medium sized goal specific privately managed hospitals. They found the former particularly restricted in personnel and purchasing rules and processes.

Instrumental work values i.e., concern for pay, working conditions, hour of work, and workload etc. conformed to the personality disposition of agreeableness in the public sector. Such concerns were addressed in a more competitive and self-managed welfare/trust-hospitals with the trait of openness to new experiences

and accepting challenges. A medical work force conscientious in disposition and sensitive to working conditions as appeared from these results might be instrumental in sustaining better image of a self-managed trust-hospital.

Table 3

Regression Analysis for Perceived Hospital Characteristics Factors Explaining Various Work Values in the Trust-hospitals (N = 100)

Variables	B	SE	β	R ²
Cognitive				
Quality of services	1.47	.149	.706**	.499
Compensation / benefits	1.16	.252	.552**	.306
Affective				
Quality of services	.48	.073	.556**	.309
Instrumental				
Compensation / benefits	.35	.107	.315*	.099

Note. Only significant results are reported. No variable significantly predicted any work values in the public sector.

* $p < .01$. ** $p < .000$.

Among hospital characteristics (see Table 3) Quality of service explained 50% of the variance in Cognitive values (influence and advancement in career) as well as 30% in relationship (Affective) work values in the welfare / trust hospitals. Moreover, Compensation and benefits as a hospital characteristic also predicted Cognitive and Instrumental work values of the doctors modestly. Interestingly, none of the values could be explained by hospital characteristics in the public sector significantly.

It established a clear distinction between the two types of hospital systems in terms of characteristics influencing doctors' work values differently. Whereas personality – organizational characteristics correspondence in the trust managed doctors is clear and strong, such relationships could not be discerned in the public sector doctors supporting our hypothesis that personality traits and

hospital characteristics explain work values of the doctors of trust-hospitals more than that of the public sector.

Since, the organization and person characteristics are hypothesized to interactively determine the organizational outcomes, therefore, regression analysis was carried out to find interaction effects (see Table 4). For this purpose scores on hospital characteristics and personality traits were centered to represent interaction effects avoiding multi-collinearity and the problem of evaluating one main effect at the cost of the other (see, for example, Howell, 2001, p. 579). A product of the centered variables represented interaction as an independent variable and work values served as dependent variable.

Table 4

Personality Traits and Hospital Characteristics Explaining Work Values in Public and Trust Hospital Settings (N=200)

Variables	B	SE	β	R ²
	Cognitive			
Conscientiousness X Quality of services ^b	.277	.035	.202*	.779
	Affective			
Agreeableness X Quality of services ^a	.029	.047	-.325*	.320
Conscientiousness X Quality of service ^b	.024	.020	.277*	
	Instrumental			
Conscientiousness X Compensation/benefits ^a	.212	.077	.511**	.302

Note. Scores were centered ($X - M$) to find values for interactions terms. Only significant results are reported.

^aPublic; ^bTrust.

* $p < .05$. ** $p < .01$.

Results of this analysis revealed strong interaction (See also Figure 1) terms between Conscientiousness as a trait and Quality of services as a hospital characteristic, explaining Cognitive work values in trust/welfare hospitals ($R^2 = .779$).

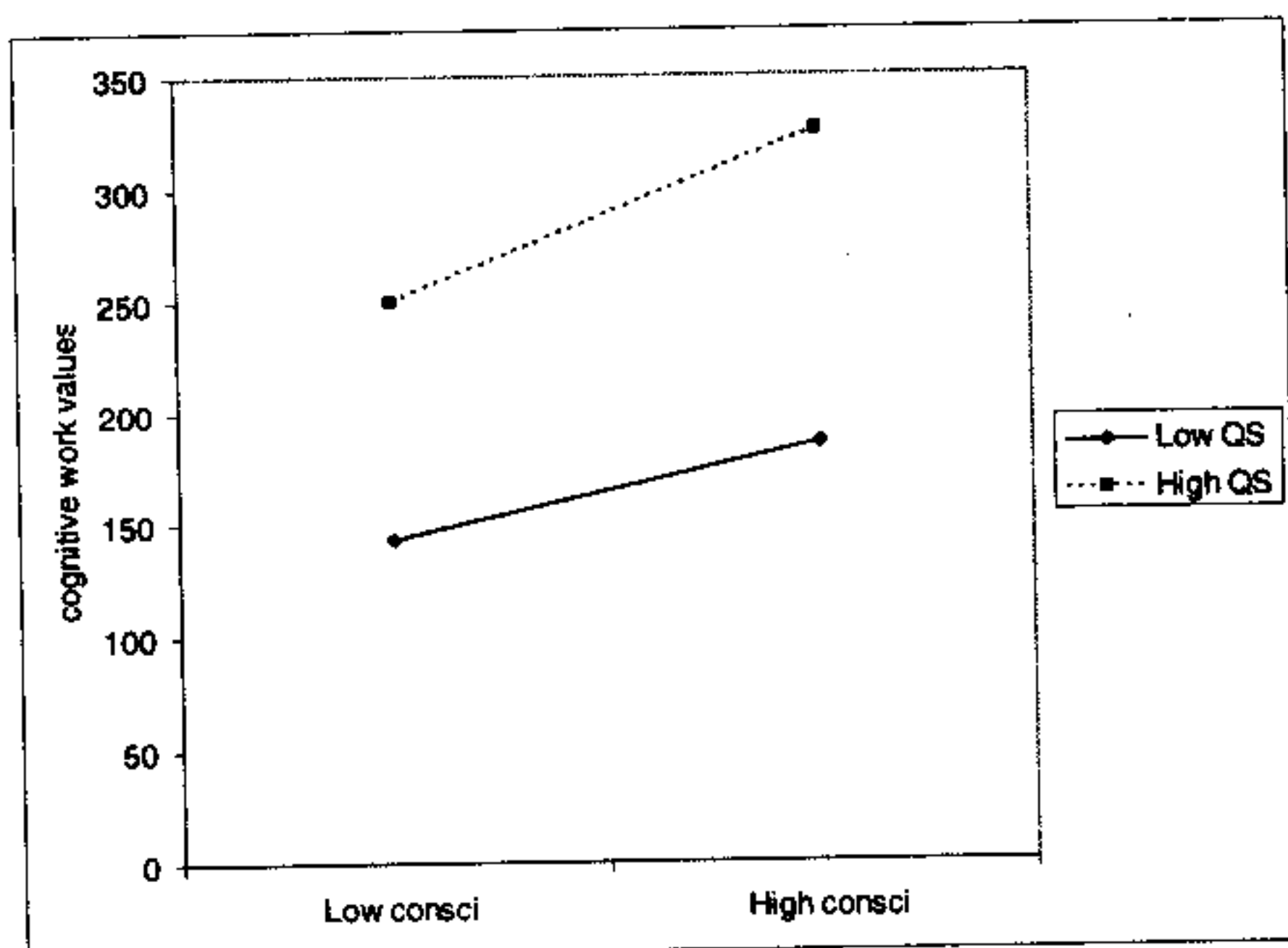


Figure 1. Interaction plots of Conscientiousness (consci) and Quality of services (QS) predicting Cognitive work values in trust-hospitals.

These work values were not predicted significantly by personality X organization interaction in the public sector. Second, for Affective values, Quality of service is bounded by interpersonal accommodation in the reverse direction ($B = -.325$; $R^2 = .320$; see Figure 2).

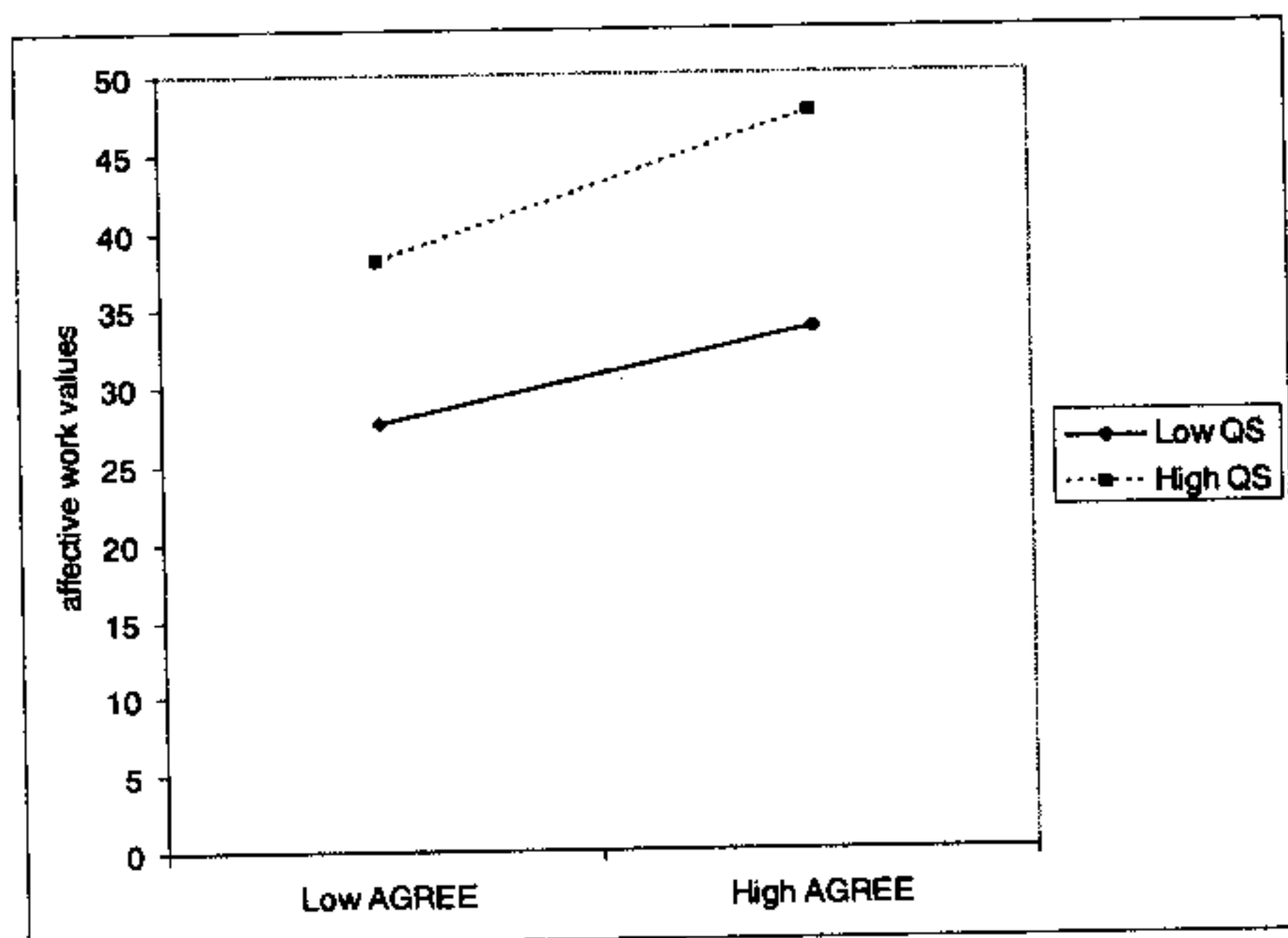


Figure 2. Interaction plots of Agreeableness (AGREE) and Quality of Services (QS) predicting Affective work values in public sector hospitals.

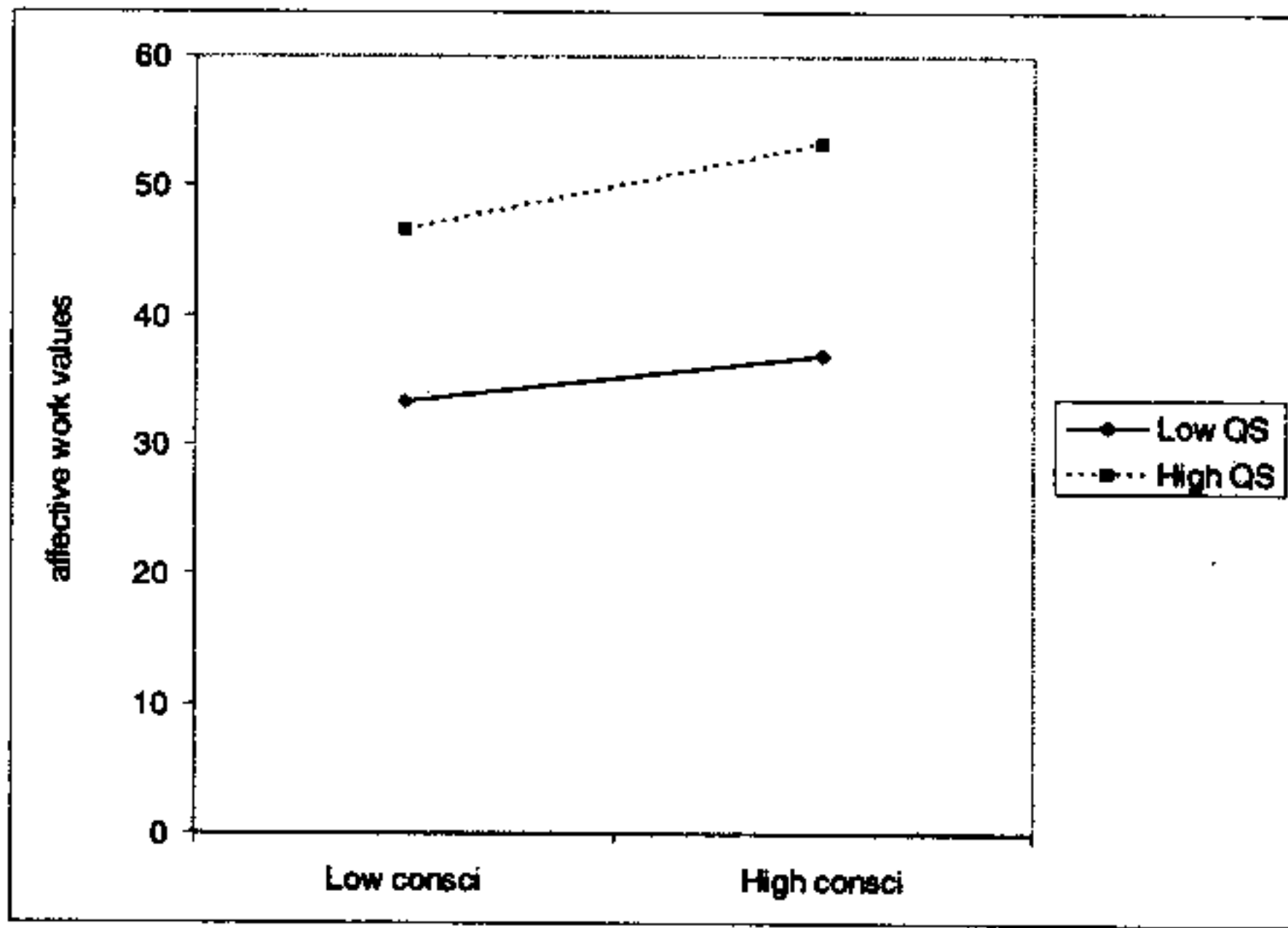


Figure 3. Interaction plots of Conscientiousness and Quality of Services predicting Affective work values in trust hospitals.

Agreeableness (trait) X Compensation/benefits influenced Affective values of trust sector doctors ($B = .265$, see Figure 3). Third, Conscientiousness and Compensation/benefits as organizational characteristic strongly accounted for financial (Instrumental) values in the public sector ($B = .511$; see Figure 4).

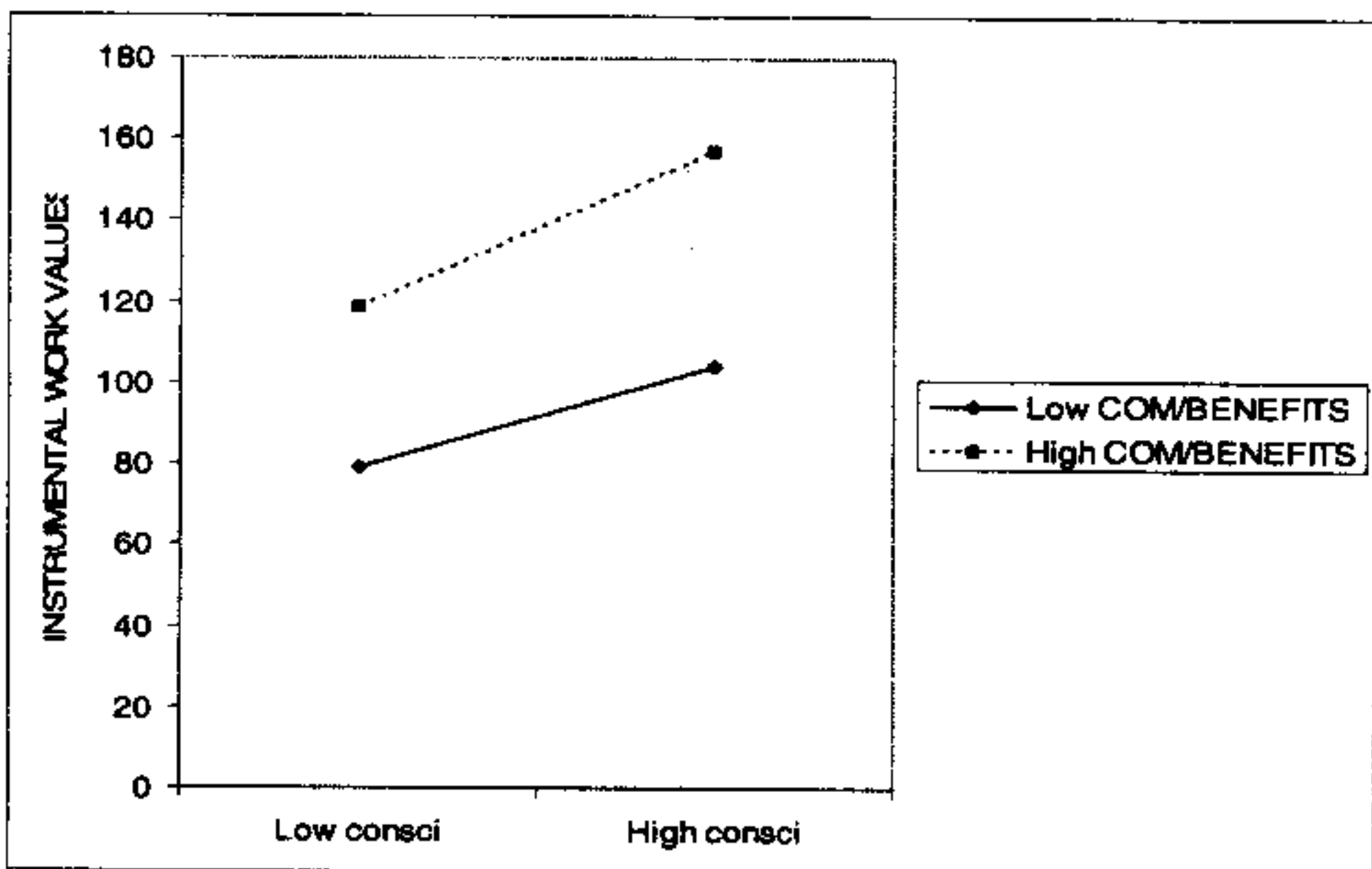


Figure 4. Interaction plots of Conscientiousness (consci) and Compensation/benefits (COM/BENEFITS) & HR-practices predicting Instrumental work values in public sector hospitals.

The above shows how personality traits influenced work values boosted by a certain hospital characteristics. Chatman (1989) held that both personal and situational characteristics interactively influence work outcomes. Bem and Allen (1974) also endorsed that all behavior is a function of situational characteristics and personality traits in that both can potentially facilitate and constrain behavioral expression.

Supervisory ratings on doctors' job performance in terms of very satisfactory and satisfactory categories were compared on their scores on the psychological variables by means of least significant difference (LSD) method. Performance rating synchronizes with all of the psychological scores meaningfully among doctors of trust settings (except one i.e., Cognitive values where a difference of -.6 indicates satisfactory group outscoring the very satisfactory group) supporting our hypothesis of personality - organization congruence. Absence of such reciprocity between the two types of data in the public sector might be due to supervisory ratings which could not be related meaningfully with the psychological measures.

Table 5

Comparisons (in terms of Least Significant Difference) between Supervisory Ratings of Doctors' Performance with Personality Traits and Perceived Hospital Climate (N=194)

Dependent Variables	Difference in mean supervisory ratings of Public & Trust (P-T) doctors	SE	p
	Public		
Agreeableness	4.32 ^a	1.40	.00
	3.47 ^b	1.36	.01
Openness	3.93 ^a	1.58	.01
	Trust		
Agreeableness	2.82 ^a	1.32	.03
Openness	3.48 ^b	1.16	.04
Conscientiousness	3.67 ^a	1.41	.01
Extraversion	2.41 ^b	1.09	.02

Continued...

Dependent Variables	Difference in mean supervisory ratings of Public & Trust (<i>P-T</i>) doctors	<i>SE</i>	<i>p</i>
Neuroticism	2.47 ^a	1.16	.03
Quality of service	2.86 ^c	1.07	.00
	2.12 ^b	0.98	.03
Compensation/benefit	1.65 ^c	0.74	.02
	1.36 ^b	0.48	.00
Training & Develop	1.63 ^c	0.65	.01
	2.41 ^b	0.68	.00
Cognitive Values	- 6.57 ^c	2.25	.00
	4.99 ^b	2.06	.01
Instrumental values	1.93 ^b	0.78	.09

Note. Rating of 98 doctors in public-hospitals (very satisfactory = 26, satisfactory = 43, average = 29); of 96 doctors in trust-hospitals (very satisfactory = 24, satisfactory = 40, average = 32).

Difference in mean supervisory ratings: ^a V. Satisfactory - Average; ^b Satisfactory - Average; ^c V. Satisfactory - Satisfactory.

In the trust-hospitals such differences were salient on all the big five traits, on all the three organizational characteristics, and two of the three work values. The mean differences were statistically significant between very satisfactory and satisfactory groups.

Conclusion

The traits of Conscientiousness explained the work values of trust-hospital doctors as Agreeableness did so in the public sector. None of the hospital characteristics was related to doctors' work values in the public sector unlike the trust-hospitals where concern about quality of service as an organizational characteristic predominantly explained doctors' cognitive (career advancement) and relationship values. The interaction effects between organization characteristics and personality traits were strong and significant in the trust sector data. Both the personality characteristics of the doctors and their perception of the characteristics of their hospitals strongly related to their supervisor rating in the private sector doctor. It,

therefore, appeared that the person-organization fit was evident as well as psychologically meaningful and relevant to work outcome (supervisory ratings) in the trust stream of hospital only. On the other hand, significant predictions were not found in the public sector data. On minor details, the Agreeableness characterized in the public sector doctors and Openness to new experiences and innovations as personality traits characterized the doctors of the private sector. Likewise, concerns about Quality of service and Compensation/benefits were greater in the trust sector, unlike the public sector where organizational characteristics were conspicuous. Agreeableness was basic to relationship values of public doctors, whereas, it was Conscientiousness which ruled such outcomes in the trust-hospitals. On the whole, the concept of person-organization fit found stronger and integrated evidence in the trust managed hospital than in the public-hospitals.

Some of the implications that follow from these results are: 1). Public sector hospitals do not significantly present any perceptible organizational characteristic for its doctors. Some changes in the system of management might perhaps bring these to limelight. 2). Doctors with Conscientiousness and Openness disposition may be inducted in the medical service rather than agreeable status quo minded people who have a stronger urge for career advancement and opportunities for learning.

At the end, limitation of the study may also be mentioned which is popularly known as common method variance within the data when the measures used are all self-report questionnaires. Although questionnaires are sometimes the only realistic and affordable way to get data in the field settings, the systematic variance thus introduced either inflate or depress observed relationships among variables.

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