PERSONALITY TRAITS AND INDIVIDUAL EFFECTIVENESS: MODERATING ROLE OF ELECTRONIC MEDICAL RECORDS

1. Dr. Faisal Shafique Butt* 2. Muhammad Iftikhar Ali 3. Dr. Muhammad Waseem

1. Assistant Professor, Department of Computer Science, COMSATS University Islamabad, Wah Campus, Punjab, Pakistan
2. Ph.D. Scholar, Bahria Business School, Islamabad, Pakistan
3. Lecturer, Department of Mathematics, COMSATS University Islamabad, Wah Campus, Punjab, Pakistan

INTRODUCTION

This investigative study targets to inspect the impact of five traits of personality on individual effectiveness in Pakistani healthcare sector. There are five personality traits which comprise of “conscientiousness, neuroticism, extraversion, openness to experience and agreeableness”. The moderating role of Electronic Medical Records (EMRs) between traits of personality and individual effectiveness has been investigated in this study. The healthcare industry is a conglomeration and joining of areas inside the economic framework that gives goods and services for the treatment of patients with healing, protective, amendatory and remedying consideration. Hospitals assume an extremely critical part in the medical services design of a country.

The area of therapeutic services is engaging to expand ability, superiority of care and patients’ encounters (Butt, Nawab, & Zahid, 2016), so strong commitment and seriousness is needed to do this duty (Wachter, 2010). Due to the mistake and horrendous
demonstrations of doctors, the time of guardians is squandered up to 10 percent and it contributes and phenomenal input to care quality (Butt et al., 2016). Consequently, investigation is desirable to gain improved efficiency and viability of hospitals for handling such dissatisfactions. Besides, there is less number of studies accessible which have efficiently reviewed the reasons of these disappointments in the literature (Fredendall, Craig, Fowler, & Damali, 2009). Hence, there is still some room vacant to perform the additional investigation to acquire improvement of hospitals in Pakistani healthcare sector.

Literature Review

The healthcare services have revealed a fundamental part in sanctioning financial development and related literature has demonstrated imperative associations among wellness and effectiveness (Sachs & Malaney, 2002). Pakistan is a republic which is making a decent attempt to accomplish "Millennium Development Goals" (MDGs) which are established for every emerging country. The advancement of healthcare sector in Pakistan could not be overlooked since the hour of freedom. Pakistan has attempted to make a lot of progress in its medical services system and has brought out numerous changes (Kurji, Premani, & Mithani, 2016). There are many positive in Pakistani healthcare system like "Public Private Partnership, improving human resource development, infrastructure for basic health units". At the same time, there are many weaknesses of Pakistani healthcare system like unequal access to healthcare services, bad governess, no health information system, corruption, etc. (Kurji et al., 2016). High performance workforces enhance the individual effectiveness and same connection exists in the sector of healthcare because personality has been connected to individual effectiveness (Barrick, Mount, & Judge, 2001).

The traits of personality are demeanors to show a specific sort of reaction across different circumstances (Rauch & Frese, 2007) that are extremely steady over a long period of time (Baum, Frese, & Baron, 2014). Because of the intricacy of humanoid character, a thorough model titled the Big Five model was created to clarify significant behaviors of personality in five general classes (Goldberg, 1990). Extensive provision was gotten by this model after its development aimed at the five variables—“conscientiousness, neuroticism, extraversion, openness to experience and agreeableness”— suggested by this model, has become the highly utilized orientation in the researches of personality (Brandstätter, 2011; Gosling, Rentfrow, & Swann Jr, 2003).

Regardless of the proportions of the Big Five model have an influence on individual effectiveness, has been the focal point of various investigations (H. Zhao & Seibert, 2006; X. Zhao, Lynch Jr, & Chen, 2010). Underneath, a concise review of literature is introduced to attest the pertinence of five traits of personality to individual effectiveness.

Big-5 Personality Traits

It is maybe the broadly utilized structure and generally acknowledged model in the examination of personality (Camps, Stouten, & Euwema, 2016). This is complete model for personality, where people perceive themselves just as relationship with others (Izzati, 2015).
Conscientiousness

The attribute addresses people’s scrupulousness and how people are coordinated in their work exercises. The personalities who have elevated score in this quality are decent at goal-oriented effort. The persons who have great mark at conscientiousness are extra goal-oriented, effectively observe the guidelines and standards and they are additionally tireless and careful (Bogg & Roberts, 2013). Conscientiousness is the finest indicator of occupational related execution amongst the personality traits (Blickle et al., 2013). The folks who have extraordinary score in conscientiousness are added competitive and goal oriented and hence they execute the tasks better than those who have low score in conscientiousness (Marinova, Moon, & Kamdar, 2013). It has been observed that the people who low score in conscientiousness are generally depressed (Settles et al., 2012).

Neuroticism

It may be portrayed as expressively steady. The people who have high score in neuroticism are expressively unbalanced, sulkiness and despondency. The people who have low score in neuroticism are expressively steady and robust. This personality trait can be a source of personality sicknesses like temperamental and worried (Barlow, Ellard, Sauer-Zavala, Bullis, & Carl, 2014). Neuroticism is an important predictor of work performance in diverse occupations (Hormann & Maschke, 1996). The second imperative factor of employability of a contender is steady enthusiastic contemplations (Dunn, Mount, Barrick, & Ones, 1995). In certain circumstances, there is negative impact of neuroticism with effectiveness (Judge, Higgins, Thoresen, & Barrick, 1999).

Extraversion

Extraversion encompasses potentials like sociability, confidence and talkativeness. The individuals who have high score in extraversion are extra sparkling and optimistic. The individuals who have low score in extraversion are earmarked and have issues to mix with other individuals. It has been observed that this trait is positively connected to effectiveness and performance of job especially in the field of sales (Bing & Lounsbury, 2000; Lowery & Krilowicz, 1994; Mount, Barrick, & Strauss, 1999; Vinchur, Schippmann, Switzer III, & Roth, 1998). Nevertheless, sometimes, high extroverts create clatters that reduce the performance.

Openness to Experience

Openness to experience includes dynamic sentiments, creative empathy, thought to inward contemplations, a tendency for variety, profound thought and opportunity of judgment. This attribute addresses peoples’ emblem as far as being imaginative, gutsy and open to new encounters. Individual who have low scores in this trait are traditional. People who have high score in this trait have are prepared for novel experimentations and explorations. This trait is positively associated with inventiveness and creativity (Baer & Oldham, 2006). A connection is found among heritability and openness to experience. This attribute is linked to success in the occupation of consultants (Hamilton, 1988), change
management (Rothmann & Coetzer, 2003) and training and development (Barrick & Mount, 1991).

**Agreeableness**

This attribute portrays proportions of personality like faith, sympathy and love. According to some researchers, this attribute is linked with societal conformism and public attractiveness related procedures (Paulhus & John, 1998). Agreeableness intends to be sincere, agreeable and supportive of societal. The people who have great score in this trait want to maintain pleasant social connections. This trait shows individual effort to uphold good relationships with other individuals. The individuals who have low score in this trait have disruptive conduct (Laursen, Pulkkinen, & Adams, 2002) and they face problems to regulating into community settings (Laursen, Hafen, Rubin, Booth-LaForce, & Rose-Krasnor, 2010). The low score in agreeableness also causes social adjustments (Wang, Hartl, Laursen, & Rubin, 2017).

**Electronic Medical Records**

Information technology is being utilized in practically every one of the fragments of life like training, transportation, construction, health, mass media etc., (Thorp, 2003). “An EMR is an official patient record that is shaped in digital design in hospitals and ambulatory settings”. The arrangement of EMRs hold data including clinical activities, therapeutic symbolisms, patients’ behavior and activities from medical services providers in a variety of arrangements (Mao & Sun, 2017). A great amount of clinical records have been created with the constant utilization of EMRs, attracting developing attention for researchers both medical services and information systems to direct important examinations with the enormous dataset (Mao & Sun, 2017). The formation of medical records in digital format empowers healthcare practitioners to share these records over the secured networks. It allows more consistent and safer healthcare process. It also allows healthcare practitioners in taking the correct decisions.

**Individual Effectiveness**

Individual effectiveness means “a measure of your efficiency, your ability to create maximum value in the minimum time and effort; and to make good progress in the face of difficulties”. Individual effectiveness means a degree of your competence, sense, your capability to generate all-out worth in the least time and energy; and then to make decent growth in the time of troubles (Development, 2013). Individual effectiveness corresponds with the way of thinking of continual enhancement. In addition, individual effectiveness includes objective setting, individual improvement and drive, management of time and stress; supposing obligation of own work and creating immensity and growth. So, extremely effective individuals have better communication skills, have encouraging relations with others, can handle problems and pressure and can manage time and vigor well, and hence accomplish better as compared to individuals who are ineffective.
Material and Methods

This study is quantitative in nature and tests different hypotheses which have been extracted from a theoretical framework. For this study, the target population is medical practitioners who are performing their duties in different private and public hospitals of Pakistan. As per the records of Pakistan Medical Commission (PMC), there are 281,072 licensed medical practitioners in Pakistan till 13th July 2021. The sample size for this study was 413 medical doctors. The following process was adopted for the selection of sample size.

1: A complete list of hospitals which are recognized by PMC was taken.

2: Sample frame consisting of 13 hospitals was taken. All these hospital were easily approachable.

3: Overall 710 questionnaires were distributed to medical doctors.

4: The quantity of questionnaires was dispersed to different hospitals as per their human resource of doctors.

The structure of the questionnaires of study for existing investigation was to a great extent based on and obtained from three review surveys utilized in previous investigations. Seven point Likert scale was utilized in the research study. The subsequent table shows the different instruments which were used in the study.

| S. No | Instrument Name                     | Source                                      |
|-------|--------------------------------------|---------------------------------------------|
| 1     | Big Five Inventory                   | (John & Srivastava, 1999)                  |
| 2     | EMRs                                 | (Kerollos, 2012)                           |
| 3     | Organizational Effectiveness         | (Gold, Malhotra, & Segars, 2001)           |

In this study, out of 710 distributed questionnaires, 524 questionnaires were received. Out of 524 questionnaires, 413 questionnaires were selected for further investigations. The sampling techniques of simple random and stratified sampling were utilized in the research. Statistical Package for Social Sciences (SPSS) 25th edition was selected to perform statistical investigations. It was assured to the participants that the answers given by them will remain a private record in the protection of the investigators.

Theoretical Framework

- Personality Traits
  - Agreeableness
  - Conscientiousness
  - Extraversion
  - Openness to Experience
  - Neuroticism
- EMRs
- Individual Effectiveness
Hypotheses of the Study

H1: Agreeableness is associated with individual effectiveness.

H2: Conscientiousness is associated with individual effectiveness.

H3: Extraversion is associated with individual effectiveness.

H4: Openness to Experience is associated with individual effectiveness.

H5: Neuroticism is associated with individual effectiveness.

H6: EMRs moderate the association between agreeableness and individual effectiveness.

H7: EMRs moderate the association between conscientiousness and individual effectiveness.

H8: EMRs moderate the association between extraversion and individual effectiveness.

H9: EMRs moderate the association between openness to experience and individual effectiveness.

H10: EMRs moderate the association between neuroticism and individual effectiveness.

Results and Discussion

The subsequent sections are envisioned for inclusive explanation and statistical enquiry of data to make this examination an unadulterated scholarly undertaking.

Test of Alpha for Evaluating Consistency for Variables

Nevertheless strategies were all around verified, researchers likewise needed to execute further examination of the variables by performing test of alpha to get protection that all items have reliability and inter-item consistency against the gathered sample. Hence, coefficients of cronbach alpha were planned to validate the consistency of actions and essential trustworthiness intended for diverse scales.

The values of cronbach alpha close to and above 0.7 are reflected satisfactory for reliability of gauge questionnaire. The different values of cronbach alpha for diverse scales range from 0.771 to 0.901, as shown in Table 2.

| Construct                | No. of Items | Cronbach Alpha Coefficient |
|--------------------------|--------------|-----------------------------|
| Personality Traits       | 44           | 0.784                       |
| EMRs                     | 17           | 0.901                       |
| Individual Effectiveness | 12           | 0.771                       |
Descriptive Statistics

An intriguing examination is an arrangement that attempts to expand extra information about a nitty gritty characteristic inside a specific field of study. Upheld expressive measurements are important in unfurling a bunch of figures (Triola, 2003). The descriptive statistics which incorporate score for mean and standard deviations are uncovered in Table 3. The value of mean for neuroticism is 3.590 which basically clarifies that most of the respondents have showed moderately disagree answer for neuroticism.

The standard deviation score for neuroticism is 0.819 which shows that the dissimilarity of information from mean of neuroticism. The wide range of various values of mean and standard deviation are reasonable as shown in Table 3.

| Construct             | Means | Standard Deviation |
|-----------------------|-------|--------------------|
| Neuroticism           | 3.590 | 0.819              |
| Extraversion          | 4.980 | 0.704              |
| Openness to Experience| 5.252 | 0.739              |
| Agreeableness         | 4.528 | 0.608              |
| Conscientiousness     | 4.063 | 0.597              |
| Individual Effectiveness| 5.146 | 0.634              |
| Electronic Medical Records | 4.201 | 0.802              |

Table 3
Descriptive Statistics (N=413)

Bivariate relationship

The examination of correlation is the impression of conduct of data and is used to show relationship among assorted factors utilized in the research. The results of correlation are utilized to drop the extent of uncertainty. The forecasts upheld by investigation of correlation are dependable and close to reasonableness. It is utilized to check the relationship between two or more than two constructs. The value of correlation among openness to experience and individual effectiveness is 0.279. The value of association among agreeableness and EMRs is 0.281. All the details of correlation values have been shown in Table 4. The values of correlation are suitable for the study.

| Construct              | 1   | 2    | 3    | 4    | 5    | 6    | 7    |
|------------------------|-----|------|------|------|------|------|------|
| Neuroticism            | 1   |      |      |      |      |      |      |
| Extraversion           | 0.88| 1    |      |      |      |      |      |
| Openness to Exp        | -0.098* | 0.347** | 1          |      |      |      |      |
| Agreeableness          | 0.194** | 0.184** | 0.183** | 1    |      |      |      |
| Conscientiousness      | 0.278** | 0.013  | -0.021 | 0.220** | 1    |      |      |
| Ind. Effectiveness     | 0.046 | 0.197** | 0.279** | 0.148** | 0.183** | 1    |      |
| EMRs                   | 0.042 | 0.186** | 0.169** | 0.281** | 0.197** | 0.205** | 1    |

** “Correlation is significant at 0.01 level (2-tailed)”
* “Correlation is significant at 0.05 level (2-tailed)”
Demographics

Demographics show a quantifiable perspective of a populace, by and large incorporates age, sex, salary, profession etc. In this study, demographics have been calculated as shown in Table 5. According to Table 5, there are 52.1 were male doctors and 47.9 were female doctors. Majority of the doctors belong to the age group of 46-50. Majority have the experience of 0-5 years. 52.3 percent of the doctors were having the degree of Bachelor of Medicine and Bachelor of Surgery.

| Gender          | N  | %   |
|-----------------|----|-----|
| Male            | 215| 52.1|
| Female          | 198| 47.9|
| Age             |    |     |
| 20-25           | 54 | 13.1|
| 26-30           | 80 | 19.4|
| 31-35           | 40 | 9.7 |
| 36-40           | 47 | 11.7|
| 41-45           | 51 | 12.3|
| 46-50           | 86 | 20.8|
| 51 & above      | 55 | 13.3|

| Job Experience  |   |    |
|-----------------|---|----|
| 0-5             |141|34.1|
| 6-10            | 53|12.8|
| 11-15           | 37| 9.0|
| 16-20           |121|29.3|
| 21-25           | 13| 3.1|
| 26-30           | 30| 7.3|
| 31 & above      | 18| 4.4|

| Qualification                                           | N  | %   |
|---------------------------------------------------------|----|-----|
| Bachelor of Medicine and Bachelor of Surgery            | 216|52.3|
| Bachelors of Dental Surgery                             | 26 | 6.3 |
| Fellow College of Physicians and Surgeons               | 57 | 13.8|
| Member of College of Physicians and Surgeons            | 22 | 5.3 |
| Fellowship of the Royal College of Surgeons             | 92 | 22.3|

Regression Analysis

It is mostly employed for predicting and forecasting. The regression outcomes of five traits of personality on individual effectiveness are showed in Table 6. Five personality traits (openness to experience, agreeableness, neuroticism, extraversion and conscientiousness) are independent variable while individual effectiveness is the dependent variable. The value of F=11.748 and Sig =0.000, so the model is statistical significant. The elements appeared in the archetypal have the value of explained variance = 12.6 part in the reliant mutable i.e. individual effectiveness. Between autonomous
variables, openness to experience has major impact on individual effectiveness with beta value =0.205, t=4.742 and p=0.000. As the value of beta =0.205, so one unit of increase or decrease will bring 0.205 unit increase or decrease in the dependent variable. The value is p=0.000, so this indicates of acceptance of hypothesis H4 i.e., Openness to Experience is associated with individual effectiveness.

The impact of agreeableness on individual effectiveness =0.198. The p value=0.000, so the hypothesis H1 is also accepted. The hypotheses H2, H3 are also accepted. The hypothesis H5 is rejected as the value of p > 0.05. All the outcomes are revealed in Table 6.

| Table 6 | Regression between Personality Traits and Individual Effectiveness (N=413) |
|---------|--------------------------------------------------------------------------|
| Ind. Var | Dep.Var | R² | F-value | Sig | Beta | t | p |
| Agreeableness | Individual Effectiveness | 0.126 | 11.748 | 0.000 | 0.198 | 3.940 | 0.000 |
| Conscientiousness | | 0.187 | 3.590 | 0.000 |
| Extraversion | Openness to Exp | 0.093 | 2.053 | 0.041 |
| Neuroticism | | 0.002 | 0.051 | 0.959 |

**Moderation Analysis of Regression of Electronic Medical Records between Personality Traits and Individual Effectiveness**

The moderation analysis of regression is applied to see the impact of moderation variable among independent and dependent variable (Cohen, Cohen, West, & Aiken, 2013). The method of Baron and Kenny has been used in the analysis of moderation.

Table 7 displays the connection among agreeableness and individual effectiveness moderated by EMRs. The model is statistically significant at all the steps. At step 1, the value of R² = 12 percent. The worth of Beta for EMRs and agreeableness =0.183 and 0.143 respectively. At step 2, the value of R² = 15.5 percent and shows that 15.5 percent of the variance can be described by agreeableness and EMRs. At step 2, interaction term has been introduced. The outcome shows that the value of beta = 0.945, t value =4.521 and the value of p = 0.000, so it indicates that EMRs moderate the association between agreeableness and individual effectiveness.

So the hypothesis H6 is accepted, which statuses that EMRs moderate the association between agreeableness and individual effectiveness.

| Table 7 | Regression among Agreeableness and Individual Effectiveness moderated by EMRs |
|---------|--------------------------------------------------------------------------|
| Step | Ind. Var | Dep.Var | R² | F-value | Sig | Beta | t | p |
| 1 | Agreeableness | Ind. Eff | 0.120 | 22.457 | 0.000 | 0.183 | 5.901 | 0.000 |
| | | | | | | 0.143 | 7.899 | 0.000 |

115
Table 8 demonstrates the connection among conscientiousness and individual effectiveness moderated by EMRs. The models are statistically significant at all the steps. The interaction term shows that the assessment of p is less than 0.005, so it establishes that the hypothesis H7 is recognized which shapes that EMRs moderate the connotation between conscientiousness and individual effectiveness.

Table 9 displays the connotation between extraversion and individual effectiveness moderated by EMRs and here the hypothesis H8 is also acknowledged which statuses that EMRs moderate the connotation between extraversion and individual effectiveness. From Table 10, it is proved that our hypothesis H9 is also acknowledged which statuses that EMRs moderate the association between openness to experience and individual effectiveness.

Table 11 shows that the value of interaction term in case of p is greater than 0.005, so our hypothesis H10 is overruled which shapes that EMRs moderate the association between neuroticism and individual effectiveness.

**Table 8**

| Step | Ind. Var      | Dep.Var | R²    | F-Value  | Sig  | Beta  | t     | p     |
|------|---------------|---------|-------|----------|------|-------|-------|-------|
| 1    | Conscientiousness | Ind. Eff | 0.332 | 25.396   | 0.000| 0.081 | 2.687 | 0.008 |
|      | EMRs          |         | 0.179 | 5.941    | 0.000|       |       |       |
| 2    | Conscientiousness | Ind. Eff | 0.337 | 17.520   | 0.000| 0.089 | 2.897 | 0.004 |
|      | EMRs          |         | 0.182 | 6.018    | 0.000|       |       |       |
|      | Interaction   |         | 0.033 | 2.297    | 0.003|       |       |       |

**Table 9**

| Step | Ind. Var     | Dep.Var | R²    | F-Value  | Sig  | Beta  | t     | p     |
|------|--------------|---------|-------|----------|------|-------|-------|-------|
| 1    | Extraversion | Ind. Eff | 0.115 | 26.568   | 0.000| 0.092 | 3.056 | 0.002 |
|      | EMRs         |         | 0.178 | 5.933    | 0.000|       |       |       |
| 2    | Extraversion | Ind. Eff | 0.120 | 17.561   | 0.000| 0.180 | 3.052 | 0.002 |
|      | EMRs         |         | 0.098 | 5.924    | 0.000|       |       |       |
|      | Interaction  |         | 0.022 | 4.072    | 0.000|       |       |       |
The results of current research are gauged to the outcomes of past investigations. The distinguished connection among agreeableness and individual effectiveness was practically nonexistent in the past researches. The outcomes of this investigation are in concurrence with the consequences of Witt, Burke, Barrick, & Mount, (2002). Thus, agreeableness is a significant forecaster of individual effectiveness and it emphatically affects expanding individual effectiveness in hospital settings. As far as conscientiousness is concerned, the results of this research are as per the results of Hassan, Akhtar, & Yılmaz, (2016). So there is empirical proof that conscientiousness do relate with individual effectiveness of doctors working in hospitals. The result of the current study in case of extraversion is also as per the study of Klang, (2012). So it means extraversion also do impact on the performance of doctors in hospitals. Openness to experience is also a forecaster of individual effectiveness at hospital settings as the outcome of this study is per the study of Amir, Naz, Hafeez, Ashfaq, & Dogar, (2014). Neuroticism is not linked with individual effectiveness in hospitals and the result is per the study of JALAL, ZEB, & FAYYAZ, (2019). In case of moderation outcomes, EMRs moderate the connection between (agreeableness, conscientiousness, extraversion and openness to experience) and individual effectiveness.

This study is envisioned to be quite possibly the main commitments in the field of individual effectiveness. The present study adds to eliminate the pragmatic openings in the field of individual effectiveness. The current investigation has been completed in the hierarchical setting; along these lines, this setting has given adequacy of the results of the study.
Conclusion

The findings of the study offer a profound understanding into many factors which have remarkable effects on individual effectiveness in healthcare industry of Pakistan. According to findings of this research, following ends could be extracted. The study was quantitative in nature which was led to inspect and explore the association among five traits of personality and individual effectiveness. Agreeableness, conscientiousness, extraversion and openness to experience have an influence on individual effectiveness. Neuroticism has no effect on individual effectiveness. The study also focused on the moderating role of EMRs between five traits of personality and individual effectiveness. Except neuroticism, all other traits of personality have an influence on individual effectiveness. So, it is obvious that EMRs moderate the connection between five traits of personality and individual effectiveness excluding neuroticism.

So as per the findings of this study, the doctors who have features of agreeableness, conscientiousness, extraversion and openness to experience, tolerate alliances to be formed, which allow superior elevations of individual effectiveness in hospital settings. The research is very important for the management of hospitals i.e., they must evaluate the personality traits of doctors before appointing them.

Recommendations

The following are some specific suggestions and recommendations which can be monitored in upcoming studies.

1: This study was based on direct and moderating relationships among the variables; in future mediating studies are suggested.

2: This study was quantitative in nature; qualitative study is also recommended to get refined results.

3: The current research may also be deployed in some other organizations to enhance its generalizability.
References

Amir, F., Naz, F., Hafeez, S. Q., Ashfaq, A., & Dogar, Y. H. (2014). Measuring the effect of five factor model of personality on team performance with moderating role of employee engagement. Journal of Psychology and Behavioral Science, 2(2), 221-255.

Baer, M., & Oldham, G. R. (2006). The curvilinear relation between experienced creative time pressure and creativity: moderating effects of openness to experience and support for creativity. Journal of applied psychology, 91(4), 963.

Barlow, D. H., Ellard, K. K., Sauer-Zavala, S., Bullis, J. R., & Carl, J. R. (2014). The origins of neuroticism. Perspectives on Psychological Science, 9(5), 481-496.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. Personnel psychology, 44(1), 1-26.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? International Journal of Selection and Assessment, 9(1-2), 9-30.

Baum, J. R., Frese, M., & Baron, R. A. (2014). The psychology of entrepreneurship: Psychology Press.

Bing, M. N., & Lounsbury, J. W. (2000). Openness and job performance in US-based Japanese manufacturing companies. Journal of Business and Psychology, 14(3), 515-522.

Blickle, G., Meurs, J. A., Wihler, A., Ewen, C., Plies, A., & Günther, S. (2013). The interactive effects of conscientiousness, openness to experience, and political skill on job performance in complex jobs: The importance of context. Journal of Organizational Behavior, 34(8), 1145-1164.

Bogg, T., & Roberts, B. W. (2013). The case for conscientiousness: Evidence and implications for a personality trait marker of health and longevity. Annals of Behavioral Medicine, 45(3), 278-288.

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. Personality and individual differences, 51(3), 222-230.

Butt, F. S., Nawab, S., & Zahid, M. (2016). Moderating Role of Change Management on Effectiveness in Healthcare Industry of Pakistan. Pakistan Journal of Social Sciences (PJSS), 36(2).

Camps, J., Stouten, J., & Euwema, M. (2016). The relation between supervisors’ big five personality traits and employees’ experiences of abusive supervision. Frontiers in psychology, 7, 112.

Cohen, J., Cohen, P., West, S., & Aiken, L. (2013). Applied multiple regression/correlation analysis for the behavioral sciences (Third; Routledge, Ed.).
Personality Traits and Individual Effectiveness: Moderating Role of Electronic Medical Records

Development, C. (2013). Our Business is to Lead You and Your Business to Success- Personal effectiveness.

Dunn, W. S., Mount, M. K., Barrick, M. R., & Ones, D. S. (1995). Relative importance of personality and general mental ability in managers' judgments of applicant qualifications. *Journal of applied psychology, 80*(4), 500.

Fredendall, L. D., Craig, J. B., Fowler, P. J., & Damali, U. (2009). Barriers to swift, even flow in the internal supply chain of perioperative surgical services department: A case study. *Decision Sciences, 40*(2), 327-349.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems, 18*(1), 185-214.

Goldberg, L. R. (1990). An alternative description of personality: the big-five factor structure. *Journal of personality and social psychology, 59*(6), 1216.

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in personality, 37*(6), 504-528.

Hamilton, J. D. (1988). Rational-expectations econometric analysis of changes in regime: An investigation of the term structure of interest rates. *Journal of Economic Dynamics and Control, 12*(2-3), 385-423.

Hassan, S., Akhtar, N., & Yılmaz, A. K. (2016). Impact of the Conscientiousness as Personality Trait on both Job and Organizational Performance. *Journal of Managerial Sciences, 10*(1).

Hormann, H.-J., & Maschke, P. (1996). On the relation between personality and job performance of airline pilots. *The International Journal of Aviation Psychology, 6*(2), 171-178.

Izzati, U. A. (2015). Personality trait as predictor of affective commitment. *Open Journal of Social Sciences, 3*(06), 34.

JALAL, R. N.-U.-D., ZEB, N., & FAYYAZ, U.-E. (2019). The effect of personality traits on employee job satisfaction with moderating role of Islamic work ethics. *The Journal of Asian Finance, Economics, and Business, 6*(2), 161-171.

John, O. P., & Srivastava, S. (1999). *The Big-Five trait taxonomy: History, measurement, and theoretical perspectives* (Vol. 2): University of California Berkeley.

Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel psychology, 52*(3), 621-652.

Kerollos, J. (2012). *The Management and Sustainability of Organizational Change in Primary Care Adoption of Electronic Medical Record Systems.*
Klang, A. (2012). The Relationship between Personality and Job Performance in Sales:: A Replication of Past Research and an Extension to a Swedish Context.

Kurji, Z., Premani, Z. S., & Mithani, Y. (2016). Analysis of the health care system of Pakistan: lessons learnt and way forward. J Ayub Med Coll Abbottabad, 28(3), 601.

Laursen, B., Hafen, C. A., Rubin, K. H., Booth-LaForce, C., & Rose-Krasnor, L. (2010). The distinctive difficulties of disagreeable youth. Merrill-Palmer Quarterly (1982-), 80-103.

Laursen, B., Pulkkinen, L., & Adams, R. (2002). The antecedents and correlates of agreeableness in adulthood. Developmental psychology, 38(4), 591.

Lowery, C. M., & Krilowicz, T. J. (1994). Relationships among nontask behaviors, rated performance, and objective performance measures. Psychological Reports, 74(2), 571-578.

Mao, H., & Sun, Y. (2017). A way to understand inpatients based on the electronic medical records in the big data environment. International journal of telemedicine and applications, 2017.

Marinova, S. V., Moon, H., & Kamdar, D. (2013). Getting ahead or getting along? The two-facet conceptualization of conscientiousness and leadership emergence. Organization Science, 24(4), 1257-1276.

Mount, M. K., Barrick, M. R., & Strauss, J. P. (1999). The joint relationship of conscientiousness and ability with performance: Test of the interaction hypothesis. Journal of Management, 25(5), 707-721.

Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. Journal of personality, 66(6), 1025-1060.

Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. European Journal of work and organizational psychology, 16(4), 353-385.

Rothmann, S., & Coetzer, E. P. (2003). The big five personality dimensions and job performance. SA Journal of industrial psychology, 29(1), 68-74.

Sachs, J., & Malaney, P. (2002). The economic and social burden of malaria. Nature, 415(6872), 680-685.

Settles, R. E., Fischer, S., Cyders, M. A., Combs, J. L., Gunn, R. L., & Smith, G. T. (2012). Negative urgency: a personality predictor of externalizing behavior characterized by neuroticism, low conscientiousness, and disagreeableness. Journal of abnormal psychology, 121(1), 160.
Thorp, J. (2003). *The information paradox: realizing the business benefits of information technology*: McGraw-Hill Ryerson.

Triola, M. (2003). *Elementary Statistics*, ISBN-13: 978-0201775709, 9. Baskı: Addison Wesley, Boston.

Vinchur, A. J., Schippmann, J. S., Switzer III, F. S., & Roth, P. L. (1998). A meta-analytic review of predictors of job performance for salespeople. *Journal of applied psychology, 83*(4), 586.

Wachter, R. M. (2010). Patient safety at ten: unmistakable progress, troubling gaps. *Health affairs, 29*(1), 165-173.

Wang, J. M., Hartl, A. C., Laursen, B., & Rubin, K. H. (2017). The high costs of low agreeableness: Low agreeableness exacerbates interpersonal consequences of rejection sensitivity in US and Chinese adolescents. *Journal of Research in personality, 67*, 36-43.

Witt, L., Burke, L. A., Barrick, M. R., & Mount, M. K. (2002). The interactive effects of conscientiousness and agreeableness on job performance. *Journal of applied psychology, 87*(1), 164.

Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of applied psychology, 91*(2), 259.

Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of consumer research, 37*(2), 197-206.