The Effect of Personality Traits on Annual Salary

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Abstract

We tend to take it for granted that women now work outside their homes and have accefields that have historically been male-dominated. Regardless of this progressive move towards equality of work and owning its rewards for both men and women, women still face major gender and pay inequities in the global labor markets. The purpose of this article is primarily to serve as a repository of information, in-depth analysis, and potential for future research regarding Wage and Salary differentials among male and female employees. This paper focuses on identifying the differences in men and women across the Big Five Personality traits (OCEAN) using the BFI 44-item questionnaire. Moreover, it attempts to see how Agreeableness, Conscientiousness, and Work Experience affect Annual Salary. Primary data was collected from faculty members of the Higher Education Institutes in Peshawar. The total number of respondents was 400 who reported differences in personality across genders. On average, men were found to be higher in Conscientiousness and Extraversion while females were reported to score higher on Agreeableness and Neuroticism. Agreeableness is noted to have a significantly inverse relationship with Annual Salary while Conscientiousness and Work Experience presented a positive relationship.

Keywords: *Personality Traits, Work Experience, Salary, Gender Pay Gap*
JEL Code: J31, J71

1. **Background**

1.1: Personality and its Perspectives

Bill Clinton (William Jefferson Clinton) is globally known, majorly for serving as the 42nd President of the United States of America (USA) from 1993 to 2001. While he is an individual whose name has been heard of even when many do not know much about his career, his half-brother, *Roger Clinton* had a different life story. While Bill was on ascendance to his political career, Roger was arrested by law enforcement authorities, multiples times. His crimes included driving under influence, supposed cocaine distribution and drugs related concerns. Not only this, he also embarrassed in president brother by appearing in a series of 'abysmal' movies. (The Week, 2015) The two brothers shared almost the same environment and were raised by the same people. However, it is interesting to note how their behavior and life experiences are poles apart which makes one question; what could be the reason behind this difference in outcomes? (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014)

Personality refers to an individual's persistent traits and, patterns that drive their uniqu differences in *thinking*, *feeling* and *behaving* through the course of life (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). It is also viewed as a "blend of characteristics that make a person unique" (Weinberg & Gould). Personality and its assessment, unlike other scientific disciplines, is not an exact science but serves as a major pillar in any discipline related to human motivations and behavior such as *Economics*, *Sociology* and *Political Science* (Hogan & Sherman, 2020), and it influences our day to day preferences and interactions (Serapio-García, G, et al., 2023). Throughout the available literature, personality is seen to be determined by *Nature* (biology and genetics), *Nurture* (environment and upbringing) or an interplay between the two (McLeod, 2017)**.** Interestingly, some studies even found nurture to be more decisive in matters related to wealth, investments and savings. (Black, Devereux, Lundborg, & Majlesi, 2020) A simplistic understanding of personality can be explored through its structure which comprises of three parts; *Psychological Core* (psychological nature), *Typical Responses* (tendencies) and *Role-Related Behavior* (conformity to societal roles) (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). Thus, personality can be termed as a sum total of many inherent and environmental factors pertaining to an individual and the his/her ecosystem. For example, for an entrepreneur, motivation for venture creation depends highly on the personality of an entrepreneur, which can be shaped through diverse factors including independence, education, risk taking, creativity and self-confidence (Zarnadze, Ines, Çera, & Ribeiro, 2022). Over the years, there have been multiple theories on how to conceptualize, understand and measure human personality.

Sigmund Freud's Psychodynamic Perspective towards understanding human personality was one of the first comprehensive set of explanations. According to the Freudian perspective, personality involves *Instinctual Drives* (sexuality and aggression), *Unconscious Processes* and *Parental Influence* during early childhood (McLeod, 2017). His work suggests an interplay between nature and nurture in one's personality. It also suggests that parents, their care and behavior towards children especially during the first five years of childhood plays a vital role in the development of a child's behavior (McLeod, 2017). Freud further explained that one's personality is based on their *Psyche* which consists of the *Id*, *Ego* and *Superego*. Id represents the instinctive makeup of an individual and consists of our primitive urges and, impulses such as sexuality and hunger while superego serves as a repository of one's moral principles (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). Ego, in contrast, is
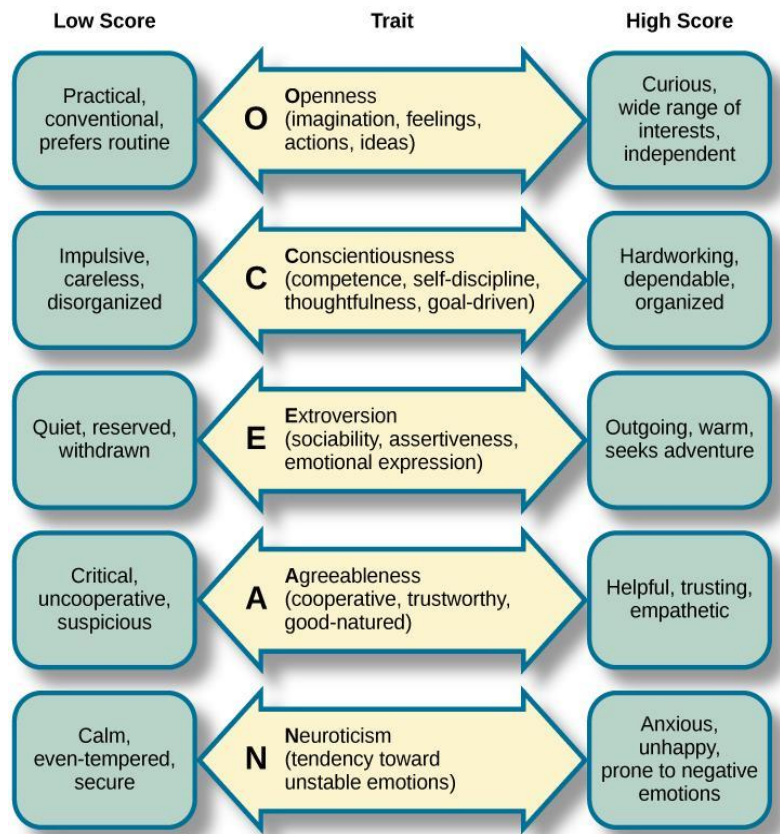
what Freud calls one's *Self*, responsible for playing a mediator's role between impulsive drives and our conscience (superego) (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). Even though, Freud is known as the father of modern psychology (Sibi, 2020). Yet, not everyone agrees with the psychoanalytical theory of Freud. Critics argue that his views were highly skewed towards sex libido of a person, and therefore, which tend to be very pessimistic (Irawan, Hadi, & Abdurrahman, 2023).

Reinforcements and punishments shape behavior of person as these drivers increase/ decrease the likelihood of a behavior (Scott, Jain, & Cogburn., 2023). *Learning Perspective* is another school of thought on the subject of personality and its understanding. *B. F. Skinner* was an advocating figure of this perspective and did not believe in *Biological Determinism*. He believed every behavior is learned and one's environment is the sole factor in shaping it. He disagreed with Freud on the anchoring nature of childhood trauma and memories on personality and, suggested that it changes and develops throughout the course of one's life (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). Unlike the *Tripartite theory* of Freud, Skinner suggested that it is the principles of *Reinforcement* and *Punishment* from one's environment that encourages or discourages a behavior (Cloninger, 2009). Those who tried to understand personality through a *Social - Cognitive Perspective* agreed with Skinner that personality is shaped through a continuous learning process but disagreed with strictly holding environment as the sole cause behind determining human behavior. *Albert Badura,* proposed the *Social-Cognitive theory* which holds *Cognition* (reasoning and thinking) to be a crucial element alongside learning in human behavior and its development (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). The social-cognitive theorists were similar to Skinner's school of thought in terms of environmental impact on an individual's behavior but further contributed the concepts of *Reciprocal Determinism*, *Observational Learning* and *Self-Efficacy* (Cloninger, 2009).

The fixation of Freud's theory on childhood and Skinner's attempt to hold environment as the cause behind behavior, created the space for the *Humanistic Perspective*. This school of thought took a more holistic view which tried to understand the depth of human life experience beyond past experiences and environmental factors alone (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). They believed that an individual human person is a *Conscious* being, possesses *Freedom of Will* to make choices and can be held responsible for their decisions that are made in line with their values and goals (Bland & DeRobertis, 2019). The concept is so relevant to overall societal behavior and individual personality that it has transcended to the realm of digital technologies. Digital humanism is an evolving field that aims for a better digital future (Prem, 2024)**.** The unique aspect of this perspective is the view that human personality is an ongoing process which revolves around one's *intentions*, *choices*, *values* and *conscious awareness* (Bland & DeRobertis, 2019). *Abraham Maslow* and *Carl Rogers* contributed to this perspective and were the leading humanists of their time. Maslow is most famous for his work, "*Maslow's Hierarchy of Needs*", which suggests humans to have needs and that each category of needs is to be met in an orderly manner (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). Even though, Maslow's Hierarchy of Needs theory is widely accepted in the academic arena, critics also argue that Maslow's assumption with regard to orderly satisfaction is questionable (Rojas, Méndez, & Watkins-Fassler, 2023)**.**

Rogers, on the other hand, is famous for his *"Self-Concept"*. His work suggested that if one's *Ideal Self* (what we want to be) and *Real Self* (who we really are) are in harmony, a person experiences *Congruence* in his life which ensures high self-esteem and productivity (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014).

The *Trait Perspective* is the most commonly taught and extensively used theory in university Psychology courses and is used in general discussion of personality in the 21st century. The unique feature of the trait theory, differentiating it from other perspectives, is the contribution of multiple independent researchers towards it. *Gordon Allport* and *Henry Odbert* were the pioneers in this domain. In 1936, they used language to interpret and describe an individual's personality through forming a list of 4,500 words that related to human personality (Lim, 2020). The UK born, *Raymond Cattell,* reduced Allport's list of terms related to personality to sixteen traits. Cattell also disagreed with *Eysenck's* "only two or three dimensions of behavior" and famously created the distinction of *Source* and *Surface* traits (McLeod, 2017). According to Cattell, Source traits play a more important role in understanding and developing one's personality**.** Amidst this narrowing down of personality traits, many psychologists suggested that Cattell's "16PF" can be narrowed down even further to only 5 major traits. *Lewis Goldberg* was one of the strongest advocates for this narrowing down of personality traits. The *"Big Five",* also known as the *Five-Factor Model* (FFM) came into existence after Goldberg's work was carried forward and expanded by *Robert McCrae* and *Paul Costa* (McCrae & Costa, 1999). These primary traits can be remembered using the word ***"OCEAN",*** which represents the first letter of each of the five traits; ***O****penness*, ***C****onscientiousness*, ***E****xtroversion*, ***A****greeableness* and ***N****euroticism* (Spielman, Dumper, Jenkins, Lovett, & Purlmutter, 2014). There are a few different questionnaires which can be used in order to measure an individual's personality in terms of these five traits; a couple of them include *Revised NEO Personality Inventory* (NEO-PI-R) (Costa & McCrae, Domains and Facets: Hierarchical Personality Assessment Using the Revised NEO Personality Inventory, 1995) and *Big Five Inventory* (BFI) (John, Donahue, & Kentle, 1991). One's personality is assessed based on whether they score high or low on each trait. It is important to note that the Big Five model also contains sub dimensions, also known as *facets*, within each of the five primary traits; measured through more comprehensive and in-depth questionnaires.

Low Score	Trait	High Score
Practical, conventional, prefers routine	**O** Openness (imagination, feelings, actions, ideas)	Curious, wide range of interests, independent
Impulsive, careless, disorganized	**C** Conscientiousness (competence, self-discipline, thoughtfulness, goal-driven)	Hardworking, dependable, organized
Quiet, reserved, withdrawn	**E** Extroversion (sociability, assertiveness, emotional expression)	Outgoing, warm, seeks adventure
Critical, uncooperative, suspicious	**A** Agreeableness (cooperative, trustworthy, good-natured)	Helpful, trusting, empathetic
Calm, even-tempered, secure	**N** Neuroticism (tendency toward unstable emotions)	Anxious, unhappy, prone to negative emotions

(Gray, 2017)

1.2: Gender Pay Gap

The values, concerns and issues revolving around equal treatment of humans, sexes and genders goes back a long way. Almost every country acknowledges the importance of working towards equal treatment and, dignity of human persons regardless of their unique differences, as part of their policy agenda (Pervaiz, Jan, Chani, & Chaudhary, 2011). Attempts are also made by countries to minimize the pay gap that prevails across genders. (Raile, Austin, & Bratton, 2023).

Pakistan became a member of the United Nations (UN) in September, 1947, a month after its independence (Wikipedia, n.d.)**.** Apart from the philosophical, moral and ethical basis for *fair* and *just* treatment of every individual, being a part of the UN, Pakistan recognizes the importance of developmental goals set by the UN. It was the one of the first countries to adopt the Sustainable Development Goals (SDGs) in an attempt to join the upper middle-class countries by 2030 (Sustainable Development Goals, n.d.)**.** Goal 5 of the UN SDGs is titled *"Gender Equality"* and aims to end discrimination against women in all domains of human life by empowering women in impactful ways. ((UNDP) U. N., 2020)**.** While, Goal 8 is titled *"Decent Work and Economic Growth"* with the aim of decent work for both men and women along with *"equal pay for work of equal value"* ((UNDP) U. N., 2020). Even though considerable work has been done to decrease the gender pay gap, however females earn thess than males in almost all industrialized countries (Penner, et al., 2023) Although it is almost common sense that equality of opportunity for humans regardless of their gender is highly beneficial for an economy's growth and development (Pervaiz, Jan, Chani, & Chaudhary, 2011) the world still faces the reality of the *"Gender Pay Gap";* But, what is the gender pay gap?

Also referred to as simply *"The Pay Gap",* the gender "pay gap is the difference in men's and women's median earnings" ((AAUW), 2019). This gap is usually shown and translated into two different kinds of statistics, *Earnings Ratio* and the *Pay Gap* itself. They are calculated using the formulas in Figure 2.

$$\text{Earnings Ratio} = \frac{\text{Women's Median earnings}}{\text{Men's median earnings}} \qquad \text{Pay Gap} = \frac{[\text{Men's median earnings} - \text{Women's median earnings}]}{\text{Men's median earnings}}$$

Figure 2.
((AAUW), 2019)

The gender pay gap is often understood, studied and measured in two different ways; *"unadjusted gap"* and *"adjusted gap"*. The former provides an *overall average* (mean or median) wage difference between men and women while the latter controls for other factors; such as a worker's *age, educational qualification, work experience, nature of occupation* and *labor market conditions* (Gurchiek, 2019)**.**

The spread of information has been catalyzed over the past decade due to the increased use of Social Media platforms. It has proved to be a vital tool in spreading information for researchers and other professionals (Ferguson, et al., 2014)**.** With 76.38 million internet users in Pakistan (Kemp, 2020) and increased levels of awareness and information spread, the issue has gained more attention over the last few years. The gender wage gap is not only seen in the developing economies but, in the developed block as well. In the US, according to a 2018 census bureau data, women make, on average, 82 cents (18% gender pay gap in terms of percentage) for every dollar a man makes (Bleiweis, 2020). According to the *Institute for Women's Policy Research* based in *Washington D.C.,* if the attempt to remove the pay gap

continues at the current pace, it'll take until 2059 for women to reach this goal ((IWRP), 2020). In *Russia*, *Finland* and *Canada*, the gender wage gap, as a percentage, respectively stands at 25%, 16% and 13.3% (Staff, 2020). According to a report from the *Equality and Human Rights Commission*, the UK's gender pay gap was 18.1% in 2016 (Brynin).

Pakistan is currently home to a population of more than 219 million people (Economics, 2020). Women make up 48.5% of the total population (Bank, Population, female (% of total population) - Pakistan , 2020). According to the World Economic Forum (WEF)'s Global Gender Gap Report for the year 2023, Pakistan stands on rank 142 among a total of 146 countries, with almost 57% gender parity (World Economic Forum, 2023). Even with an almost 50% female population, Pakistan stands at the 144th rank (2016) when it comes to *Women Economic Participation* indicator which comes under UN's SDG 5 ((LEAD), 2016). With a *Labor Force Participation Rate* of 52.6% (CEIC, 2020), the *Female Labor Force Participation Rate* accounts for less than half of it at 21.92% (Economy, 2020). Despite the fact that Pakistan's constitution clearly states that "there shall be no discrimination on the base of sex alone", and that "steps shall be taken to ensure full participation of women in all spheres of national life" (Nizami, 2024)**,** with such statistics, the gender wage gap in Pakistan is of great concern to individuals, especially females as well as policy makers. The gender wage gap in Pakistan stands at 34%, making it the highest overall mean (average) gender pay gap as compared to 73 other countries ((ILO), 2018). Although the gender wage gap appears to be a mere number, to many Pakistanis, it encapsulates numerous underlying factors. A major reason behind the pay gap is usually suggested to be *Discrimination* (Yasin, Chaudhry, & Afzal, 2010)**.** Apart from gender discriminatory policies, there are several *cultural* and *social* factors that are also shown to negatively affect the female labor force participation (Yasin, Chaudhry, & Afzal, 2010)**.** *Education* plays a vital and positive role in an individual's and an economy's life. Even with the rise of educational attainment and the constitutional backing of equal treatment, females in Pakistan face issues regarding access to employment opportunities and education (Pervaiz, Jan, Chani, & Chaudhary, 2011). Education accounts for almost half of the explanation behind an individual's progress in various domains of life. A significant number of Pakistan's population resides in low-income areas across the country where economic constraints play a negative role, making it difficult for females to gain education (Cyan, Rider, Price, & Roberts, 2019). In the past, there has also been a *Literacy Rate* gap between men and women, over the age of 10, in Pakistan (Sarwar & Abbasi, 2013). Another prominent reason which is considered to be of great importance is the domain of *Unpaid Work*. Due to socio-cultural factors, women in Pakistan are expected to perform most of the household chores and responsibilities. It is estimated that worldwide, women carry out more than twice the unpaid work done by men, which translates to around $10 trillion in monetary terms (Talpur, 2017). The overall work culture and its attitude towards female employees is also a key factor in determining workplace satisfaction and progress. 2/3 of the firms in Pakistan are reported to support gender discriminatory attitudes as being a reasonable justification for the lower number of females at management level positions (Group, 2018). The ease of transportation and travel over the past years has made it easier for people across the globe to travel and meet their personal, family, work and other needs. The *Independence of Mobility* can ensure a more fulfilling life and especially work experience, making it easier for women to choose their employment without mobility proving to be a constraint. It is a commonly held belief that it can be of great value to one's transportation requirements. It has been reported that about 30% of Pakistani women have the independence to go alone to nearby markets, suggesting that women with greater mobility are more likely to enjoy employment opportunities that require traveling (Group,

2018). Moreover, safety and sense of security gives an individual the capacity to exercise rights and duties within a political, economic and social landscape without coercion. It is an important factor but is more so for females in Pakistan due to the societal and cultural constraints they often report. Along with the burden of most of the childcare, women's perception of safety does not reflect a positive image as less than half of the females do not feel safe being outdoors (Group, 2018). Likewise, the dearth of political empowerment, as referred to in the World Economic Forum's Global Gender Gap Report, is also a serious concern in this regard. Pakistan has been ranked 93 out 126 in WEF's Global Gender Gap Report in political empowerment dimension. (World Economic Forum, 2023) Although, the gender pay gap is a single- or double-digit number, the above-mentioned factors are suggested, perceived and often in actuality a few of the many reasons behind earning differentials between men and women in Pakistan.

1.3: Research Questions
1. Are there personality differences between males and females in the collected sample?
2. Is there a Gender Pay Gap in the collected Sample?
3. What is the relationship between *Agreeableness* and Annual Salary?
4. What is the relationship between *Conscientiousness* and Annual Salary?
5. Does more work experience lead to increased Annual Salary?

1.4: Hypotheses to Be Tested
- **H1:** There is no significant relationship between Agreeableness and Annual Salary.
- **H2:** There is no significant relationship between Conscientiousness and Annual Salary.
- **H3:** There is no significant relationship between Years of Work Experience and Annual Salary.

2. Literature Review

Education has been and is still considered to be one of the most important aspects and causes of personal and economic growth for individuals as well as societies. It is also one of the key factors in measuring the Human Development Index (HDI) of a country (United Nations Development Program, 2024).It is one of those key *Human Capital* facets that ensures *security*, *prosperity* and *progress*. A research conducted by (Awan & Hussain, 2007) suggests that a difference in educational attainment levels among Pakistani men and women creates income disparity between the two. With a 25% gap in adult male and female literacy rates (Adult Male = 71%, Adult Female = 46%) (Bank, Literacy Rate, Adult Female (% of Females Ages 15 and Above), n.d.) (Bank, Literacy Rate, Adult Male (% of Males Ages 15 and above), n.d.), education is often suggested to be a strong case for higher income and an income gap in its absence (Awan & Hussain, 2007). It has also been researched that there is a lack of education that aims to increase and develop an individual's awareness of employability skills which also tends to have a positive impact on an employee's income (Chaudhry, 2007). (Cyan, Rider, Price, & Roberts, 2019) conducted a study in district *Dir* of *Khyber Pakhtunkhwa* (KP) in order to better understand the low literacy rates among females. After conducting the research based on 642 families in face-to-face interviews, the paper suggested that families possess a positive attitude towards female education but the lack of financial resources proves to be a barrier towards that goal. Apart from Education, the available literature suggests other potential reasons behind the income gap between men and women in Pakistan. (Shaheen, Sial, & Awan, 2011) conducted a study in order to examine, in detail, the patterns and barriers towards female labor force participation. This research was facilitated by the *Government of Punjab* in collaboration with *United Nations International*

Children's Fund (UNICEF) with respondents from 91,280 households. Their findings suggest that *marital status* and *socio-cultural* factors play a significant role in female labor force participation. Likewise, studies also suggest that in Pakistan, gender disparity that exists in labor markets is one of the fundamental barrier in the economic prosperity of the country (Javed, et al., 2022).Another research (Ali, Khan, & Munaf, 2013) unpacked the attitude of men towards women in managerial positions. Based on a sample size of 50 individuals (25 men, 25 women), it suggests that men who reside in *nuclear families* and have a *working mother* had positive attitudes towards female managers, compared to men in *joint families* and *stay at home mothers*. Moreover, a study conducted by (Qadir, Tariq, & Jehangir, 2018) suggested that *family income* and *locality* of one's workplace also contributes to female earnings. It appears to be a significant factor considering the lack of female mobility independence reported by many women in Pakistan (Group, 2018). The studies discussed above present a multi-faceted illustration of factors that determine female labor force participation and in turn, their earnings on an individual and societal level. Notwithstanding the Western world's attempts towards gender equality, gender horizontal segregation is still one of the main factors behind economic inequality (Balducci, 2023).

2.1: International findings on Gender Differences in Personality

Gender is a structural as well as social dynamic that covers multiple areas that affect personal identity, their health status and issues related to gender equality in a certain setting (Barr, Popkin, Roodzant, Jaworski, & Temkin, 2024). It is the overarching aspect of our personality and how we treat others, and our general environmental setting (Lorber & Farrell, 2018).The concern for equal treatment among the genders goes back a long way. Both religious as well as secular ethical value systems acknowledge and prioritize fairness and justice for everyone in all aspects of life. With an ever-increasing use of social media and global hyper focus towards ideas such as *White Supremacy, Toxic Masculinity, White Fragility, Male Dominance, Anti-Racism activism, Intersectionality and more*, the differences between men and women are now seen in a different perspective. Although these ideas encapsulate multivariate political, economic and social factors, an underlying notion that combines these ideas is the lens through which the divide between men and women is conceptualized by individuals and the global society. The difference between men and women are usually explored and understood in two ways; *Social Constructionism* and *Evolutionary Psychology*. Social Constructionism holds that reality is created by the human mind; concepts and phenomenon don't have an objective point of reference (Andrews, 2012). Based on this, the *Social Role theorists* believe that the origin and development of gender differences are a result of cultural gender roles and power struggle in a societal structure (Schmitt, et al., 2017) (Lorber & Farrell, 2018). Evolutionary Psychology, on the other hand, holds that human interaction with the environment itself is shaped by *Evolution*. It holds that the impetus to *attend*, *process* and *act* upon environmental inputs is determined by various evolutionary mechanisms (Buss, 1991). Social Constructionism related theories are more likely to be used as perspectives to understand humans and their inter-gender dynamics. It seems to suggest that the divide and socio-economic gaps between men and women are caused by external (social) factors alone; especially enforced pressure from men in order to maintain their power over women (Richardson, 1993). This wide held perspective appears to presuppose *John Locke's* idea of *Tabula Rasa* - Blank Slate (Britannica, n.d.) which holds that there are no natural variations between men and women. Though environment plays an impactful role in shaping an individual (McLeod, 2017), there tend to be many other factors involved. *Phenotypic* sex differences across personality traits between men and women have been well documented (South, Jarnecke, & Vize, 2018) along with other differences (Jarrett, 2016)

(Person, 1998). The debate and discussions seem to revolve around whether these differences are natural or socially constructed. The followers of the former usually advocate to explore, research and study these differences for a better understanding and tolerance of *human diversity*. The latter, on the other hand, holds these differences to be socially constructed and, therefore advocates progress through *Egalitarian* policies in order to minimize these differences.

2.1.1: Females and their Agreeable personalities

A research was conducted in order to explore the gender differences in personality traits, not only on the *Big Five* but also across the ten *sub aspects* branching out of the core five traits. The participants involved in the study were mainly from a metropolitan area in *Canada*. With 892 males and 1751 females, the total sample size of the study was 2643 individuals. The sample consisted of over 39% people who identified as *White* while 27.5% of the people identified as *Asians*. The two major groups (Whites and Asians) provided for a deeper analysis of personality traits among men and women as Asian communities are more likely to be *Collectivist* in nature as compared to Whites. The research findings suggested significant differences in 9 out of the 10 sub-aspects of the Big Five traits. Women were reported to score higher on trait *Agreeableness*, *Extroversion* and *Neuroticism* than men. It also suggested that there is more overlap in average personality trait results than differences but, the differences that exist are significant and likely to be greater at the sub-aspects level (Weisberg, DeYoung, & Hirsh, 2011). In other studies, as far as social constructionist point of view is concerned, researchers point towards a general sensitivity in females due to perceived or actual lower social status (Azoulay & Gilboa-Schechtman, 2022).

2.1.2: Personality traits and willingness to compete

A study out of Germany focused on trying to explain the role of personality traits and individual willingness to involve in *competitive* activities and decisions. The sample size of the study consisted of 138 individuals and was of an experimental nature. Their findings suggested that men and women react and behave differently towards competition. The paper suggested that *willingness to compete* is greatly determined by the personality trait *Neuroticism* which is inversely related to performance in competitive activities (Müller & Schwierenz, 2011). Research has also been conducted on the effect of personality traits on risk taking behavior. The total valid respondents of the study were 127 individuals (undergraduates and faculty members) from a university in *Kazakhstan*. The results suggested that *Extroversion* and *Openness* had a direct, while *Agreeableness* and *Neuroticism* showed an inverse relationship to *risk tolerance* (drive and willingness to take more risk) (Mahmood, 2015). Considering that women are likely to score high on *Agreeableness*, *Extroversion* and *Neuroticism* (Weisberg, DeYoung, & Hirsh, 2011), they are more likely to compete less and possess a lower risk tolerance, on average, compared to their male counterparts. It shows significant difference between male and female behavior in terms of their personality traits. Another 2023 study found that seven traits, namely: intelligence, self control, orientation towards achievement, persistency, autonomy of the player, commitment and support for the athlete are effective for athletes. (Maksum & Indahwati, 2023)

2.1.3: Meta-Analysis on Gender differences in Personality

Outside specified and limited scoped studies on the relationship between gender and personality traits, there have been several *meta-analyses* on understanding gender differences in personality traits. In 2001, a sample of 23,031 individuals from 26 cultures was studied to check for consistency between gender and personality traits. The results and findings suggest significant differences in gender across the personality traits. Women were reported to score

high on *Neuroticism* and *Agreeableness* while men scored more on *Openness*. The study also specified and suggested that men were reported to be more *assertive*, translating and affirming their findings of lower Agreeableness scores for men (Costa, Terracciano, & McCrae, Gender Differences in Personality Traits Across Cultures: Robust and Surprising Findings, 2001). Another meta-analysis was conducted in 2008 where the sample size consisted of 17, 637 respondents from 55 nations. Their findings reported women to score higher on *Neuroticism*, *Agreeableness* and *Extroversion* as compared to men. The trait *Neuroticism* was found to be the most significant based on their measurement and findings because of its consistency across 49 out 55 nations. Although this meta-study almost goes in line with the previous one, it suggests that the results for trait *Openness* are inconclusive and require further detailed research (Schmitt, Realo, Voracek, & Allik, 2008). A more recent meta-analysis was undertaken focusing on sex differences in personality traits in *Early Adolescence*. The sample represented 23 cultures and comprised of 4,850 respondents. The study attempted to show biological bases for differences between men and women in their personality traits and expression. It suggested that biological hormonal changes start to take place at the age of 11 till 13 for both girls and boys. These hormonal changes influence an individual's psyche, behavior and attitude towards his/her environment. The study noted girls to display higher levels of *Affiliate Behavior* as compared to boys prior to adolescence. It also suggests that *Gonadal Hormones* circulation inside human body during puberty has influence on one's *Central Nervous System* (CNS) and mood regulation which creates a depression gap at the age of 14-15 between girls and boys. Furthermore, girls are shown to develop intellectual and cognition related mechanisms earlier than boys and hence, more than often, outperform boys in this domain. *Openness* is linked with intelligence and *Conscientiousness* with executive tasks; both appear to be higher in girls. However, in time, boys' development catches up and the gap between girls and boys tends to shrink. This study also falls in line with previous meta-studies and suggests that women, on average, tend to be more agreeable than men and the same goes for Neuroticism (Bolle, Fruyt, McCrae, & Colleagues, 2015). This biological stance on personality differences among the genders is also affirmed by another study which looked at the effects of *Prenatal Androgen* on *Psychological Orientations* towards *things vs. people* (Beltz, Swanson, & Berenbaum, 2011).

2.2: International Findings on Effects of Personality Traits on the Gender Pay Gap

Over the years, people and researchers have almost developed an agreement with the phenomenon that higher levels of education and cognitive abilities lead to higher monetary returns. This return in exchange for one's product or service is not only an economic good but serves to be a key factor towards an individual's sense of worth and respect. Many factors have been argued and considered to determine an employee's *Wage* or *Salary*. A difference in skills is thought to be a significant factor in determining *productivity* which in turn translates into a worker's income. Other areas of exploration over the time have been the *nature of firm, demands of the market, ability to negotiate salary and more*. Psychology has seen a great rise, in recent past in areas of research and contains potential to answer questions in the field of political science, economics and many more. For example, Ellen K. Nyhus et al investigated if personality traits help towards a better understanding of the causes behind gender wage gap (Nyhus & Pons, 2012). Special attention has been attracted by research and findings on the psychology of *"Personality"*. This has motivated research towards personality differences and their effect on male and female earnings.

2.2.1: Big Five Personality traits and their relationship with earnings

In 2004, a study was conducted in order to explore the effect of personality on men's and women's earnings. The sample size comprised of 10,317 US based individuals. The *Five-*

Factor Model of personality was used to measure the effect of personality traits on earnings. It suggested that despite the big five personality traits' capacity to provide for a revolutionary finding, their effect is significant and can be used for reasonable estimations. The findings showed that individuals who possess *antagonistic* (roughly considered low in Agreeableness), *emotionally stable* (low in Neuroticism) and *open to new experiences* (high in Openness) traits are more likely to enjoy higher financial benefits. This important finding suggested that *Openness* plays an important role and is rewarded regardless of the gender of an employee. On the other hand, women tend to get higher wages when they possess more of the trait - *Conscientiousness* (Mueller & Plug, 2004). Another study related to the Big Five Personality Traits and Personal earnings found a positive relationship between personal earnings and personality traits of Extraversion, Conscientiousness and Openness. On the other hand, the same study found a negative relationship between personal earnings and personality traits of Neuroticism and Agreeableness. (Alderotti, Rapallini, & Traverso, 2023)

2.2.2: Trait Agreeableness and its positive relationship with earnings

A *Russian* study came out in 2005 which also focused on the earnings differential and its relationship to gender differences in personality. This study used data from 2000-2003 and suggested that effect of personality traits on the gender pay gap is significant. The researchers also included other personality aspects such as *"Locus of Control"* (LOC). Their findings suggests that men, on average, tend to have an *internal* locus of control while their female counterparts are likely to have an *external* locus of control which tends to promote affiliate behavior. Affiliate behavior is linked with *Compassion* which is linked with trait *Agreeableness* (Weisberg & DeYoung, 2014). These 2,600 respondents'-based studies suggests that individuals with an internal locus of control tend to associate their outcomes with their own actions and hence prove to enjoy higher income benefits. There are many individual women who possess an internal locus of control but this study suggests that since women, on average, tend to be more agreeable, it results in external locus of control for women. (Semykina & Linz, 2005).

2.2.3: Different gender treatment for the same personality traits

Another study focused on understanding the relationship between personality traits and income among *Australians* was conducted in 2018. The sample size of the study comprised of 533 individuals. The paper suggests that *Extroversion, Conscientiousness* and *Neuroticism* are significant personality traits in determining yearly earnings. According to this research, individuals who are more *extroverted* and *conscientious* tend to report higher incomes. On the other hand, higher incomes are also suggested to occur as a result of low *Neuroticism* in employees. Women seem to be awarded differently than men for the same personality traits. They appear to get penalized in the shape of lower income if they score high on *Openness* and likely to get rewarded, more than their male counterparts, if they are more *conscientious*. This study adds another personality aspect of *"Narcissism"*. It suggests that men are more likely to be narcissists than women and it serves them with higher income as it drives them to seek jobs directed towards higher risk and leadership. As for women, they tend to reap higher earning rewards when they score low on *Neuroticism* (Jonasona, Koehna, Okana, & O'Connorb, 2018). As already discussed above, another study related to the Big Five Personality Traits and Personal earnings found a positive relationship between personal earnings and personality traits of Extraversion, Conscientiousness and Openness. On the other hand, the same study found a negative relationship between personal earnings and personality traits of Neuroticism and Agreeableness. (Alderotti, Rapallini, & Traverso, 2023).

2.2.4: Personality traits and gender stereotypes
One of the latest researches on gender differences in personality and its interplay with the gender wage gap was published in March, 2020. This research was conducted in *Germany* and its sample included 9,305 men and 9,683 women, using data from the German Socio-Economic Panel (SOEP). The researchers suggest that *Agreeableness* and *Openness* are the most significant personality traits when it comes to their effect on the gender pay gap. However, it appears that the labor market benefits men and women differently in regards to these traits. For men, more *Openness* and less *Agreeableness*; while for women, less *Openness* and more *Agreeableness* is seen to be rewarded. Regardless of the gender, these two traits are likely to meaningfully explain returns in the labor market in their respective ways. An interesting and critical aspect of this paper is its understanding of the results through a lens of affirming stereotypical gender traits. It adds that men tend to get penalized if they score high on *Agreeableness* which conforms to the stereotypical view of men being *non-compassionate*. On the other hand, it also affirms the stereotype of women as compassionate and polite; hence, tends to result in higher income (Otten, 2020).

2.2.5: Other Perspectives
Contrary to the discussed literature, there have been studies that suggest other factors and aspects to be of greater potential to explain the gender pay gap as compared to the personality trait approach. It has been suggested in the available literature that women represent only 2.5% of the executive positions among the top 200 companies in Germany. Environment has been suggested to be biased towards the different genders and requires a gender neutral space, ensuring more access to higher paid opportunities (Fietze, Holst, & Tobsch, 2010). In 2018, a critical analysis of the effect of personality on the gender wage gap was conducted in *Bangladesh*. This study, based on 6,981 individuals, suggests that higher *Cognitive Abilities* are likely to benefit employees resulting in higher income. It suggested that cognitive skills have a higher significance than personality traits in explaining the gender pay gap between men and women. It adds that an employee's *Tenure* is likely to affect individual earnings, more so than cognitive skills. It also recommends policies to reduce the *Cognitive Skills Gap* between males and females for a lower gender pay gap (Nordman, Sarr, & Sharma, 2018).

Although the discussed literature gives different significance to different traits among the Big Five and shows that men and women are often rewarded differently for the same trait (Flinn, Todd, & Zhang, 2020), they suggest a non-negligible and significant effect of personality traits on the gender pay gap (Semykina & Linz, 2005). The critical studies mentioned above, despite their suggestion of other factors to hold more significance, also acknowledge the effect of personality on the gender wage gap as possessing *"explanatory capacity"* (Fietze, Holst, & Tobsch, 2010) (Nordman, Sarr, & Sharma, 2018). The research on the interplay between personality and the gender wage gap is still in its infancy due to the complex nature of human psychology, personality and the multiple factors that determine an employee's wages. Despite the huge potential of research in this area, the literature discussed above shows that personality traits tend to have a significant impact on the gender wage gap. Out of the Big Five, *Agreeableness* appears to have the strongest tendency of effect on the wage differentials between men and women (Semykina & Linz, 2005) (Otten, 2020) (Fietze, Holst, & Tobsch, 2010) (Flinn, Todd, & Zhang, 2020) (Jonasona, Koehna, Okana, & O'Connorb, 2018).

2.3: Findings on the Gender Pay Gap in Pakistan
The *Global Wage Report 2018/19* published by the *International Labor Organization* shows Pakistan's current gender wage gap to be higher than the global average. The existence of

wage differentials between men and women have been shown to exist, till this date, in different areas and occupations in Pakistan ((ILO), 2018). Even five years after such an important revelation, Pakistan ranked 93 out 126 in WEF's Global Gender Gap Report in political empowerment dimension. (World Economic Forum, 2023)

2.3.1: Gender Pay Gap and Labor Market Discrimination

The first study that appears to make its place in the academic literature, focused on the presence of gender wage differentials in Pakistan, was published in 1993. Using data from the city of *Rawalpindi*, it was the first to bring academia's attention towards the issue of gender pay gap in the third world countries, especially Pakistan. Though its scope was limited to one city and an old dataset, the study suggested a gender pay gap was present due to high levels of discrimination in the labor market of Rawalpindi (Ashraf & Ashraf, Estimating the Gender Wage Gap in Rawalpindi City, 1993). Due to its simplistic approach and narrow scope, another study was conducted by the same researchers. It became the first comprehensive research on understanding the gender pay gap in Pakistan. It used an old (1979) as well as a newer (1985-860) dataset for the time, in order to find the trend of wage differentials between men and women in Pakistan. It controlled for variables such as *age, educational attainment, four provinces of Pakistan* and *nine different industrial groups*. It reported that the gender wage differential rate decreased to 33% in 1985-86 from 63% in 1979. It suggested that women in *Baluchistan* earned more than their male counterparts while *rural Sindh* reported to have the highest gender pay gap at 67%. *NWFP* and *Punjab* were also reported to show decrease in the gender wage gap across every industry (Ashraf & Ashraf, An Analysis of the Male-Female Earnings Differentials in Pakistan , 1993).

2.3.2: Gender Pay Gap and Differences in Industry Type

In 2006, a first of its kind research was conducted in order to measure and understand the pay gaps between different industries of Pakistan. The study used data which was spread over a time period of 14 years (1990-2004). It showed the presence of wage differentials among different types of industries across Pakistan. It reported *legislators, officials* and *managers* to have a per hour wage rate of PKR. 20.78; while employees in the *finance* sector enjoyed an hourly wage of PKR. 79.44. Moreover, *Agriculture* and *Construction* professionals earned an hourly wage of PKR. 23 and PKR. 49.31, respectively. The paper also showed that higher levels of education are likely to attract higher levels of income. It suggested that a *University Graduation* ensured a more than 100% higher wage per hour when compared to skilled workers in *Fishery* and *Agriculture* (Jaffry, Ghulam, Shah, & Hasan, 2006).

2.3.3: Gender Pay Gap, Economic Liberalization and Socio-Economic Factors

In order to understand the dynamics of the gender pay gap in Pakistan, a study was conducted in 2007 which indicated a persistent gender inequality with Pakistan ranking 66th out of the 75 countries on its *Gender Empowerment Measure* (Human Development Report, 2006). The study introduced *Quantile Regression Analysis* to the measurement of gender wage gap in Pakistan. The study suggested presence of gender discrimination in the labor market and export led industries of Pakistan. Although it had its limitations due to no account for *Self-Employed* and *Informal Sector* employees, it showed that *Economic Liberalization* tended to affect females more than males (Sabir & Aftab, 2007). Moreover, another study was conducted which focused on finding the determinants of wage discrimination in Punjab. It used data from Pakistan Labor Force Survey and considered *literacy, education, technical training* and *professional competence* as explanatory variables. It suggested that men and women face different attitudes towards attainment of similar jobs due to the socio-economic and cultural barriers which hinder female labor force participation. The paper suggested *equality of opportunity, education* and *higher levels of training* as policy recommendations

as it argued for women to have the capacity to earn more than men, provided there is no discrimination against them in the workplace (Yasin, Chaudhry, & Afzal, 2010).

An analysis of the gender pay gap in Pakistan was conducted in 2014 with an objective of understanding the determinants of income and income gaps. This appears to be the most recent study in available literature on the topic of gender pay gap in Pakistan. The study takes *province, literacy, education, occupation, industry, job* and *marital status* as variables under consideration. The findings suggest that *married men* are more likely to earn higher income as compared to *married women*. It also found that *Returns to Education* tend to favor women more as an increase in educational level is likely to increase women's income, more than their male counterparts. The study used *Household Integrated Economic Survey* (HEIS) and reported that *education, occupation* and *marital status* are more likely to affect the gender pay gap than other mentioned variables (Ali & Akhtar, 2014).

3. **Methodology and Results**

3.1: Data

The research report is focused on employees working as faculty members at the university level in Peshawar. Peshawar is the capital city of Khyber Pakhtunkhwa, Pakistan, and divided into four towns having population of Total population of 4,267,198 people comprising of Rural population of 2,297,375 and an Urban population of 1,969,823 people (PBS, Census-2017). On the basis of the aforementioned population size and based on following sample size formula 400 sample size was derived for conduct of the survey.

The research uses primary data in order to measure personality traits which was collected using the Big Five Inventory (BFI) 44-item questionnaire (John, Donahue, & Kentle, The Big Five Inventory--Versions 4a and 54, 1991) (Chen, 2013).

The Big Five Inventory (BFI), being a self-reporting 44-item questionnaire, is an important tool to gauge personality of individuals above 18 years of age (Mastrascusa, et al., 2023).The total of its 44 items are divided in to 5 categories: openness, conscientiousness, neuroticism, agreeableness and extraversion. Multiple academic studies have endorsed the Big Five Inventory (BFI) 44-item questionnaire technique as generalizable and reliable. For this study, the self-reporting questionnaire technique over behavioral observation and projective tests, two other personality assessment techniques that are also widely used for personality assessment. This was because behavioral observation is more doable in laboratory setting, and, thus was not convenient and compatible for our population's sample, i,e, university students, faculty and staff. Likewise, the idea of projective test was also discarded for being incompatible with our research objectives and goals. The variables used for the analysis of this research are A, C, Y and Exp.

3.2: Descriptive Statistics

The total number of research participants was *n=400* while male and female participants were *50%* respectively. Every participant received the same questionnaire which was filled based on self-reported answers.

The questionnaire was designed to capture participants' personality types using the Big Five Traits model which includes 5 traits including *Openness*, *Conscientiousness*, *Extraversion*, *Agreeableness* and *Neuroticism*. The reported answers show a significant difference in personality traits between men and women especially in Conscientiousness and Agreeableness. Men scored significantly higher on trait Conscientiousness while Women were found to be significantly more Agreeable. All the participants scored high on trait Openness. Moreover, men were significantly more Extraverted while their female counterparts scored slightly higher on Neuroticism.
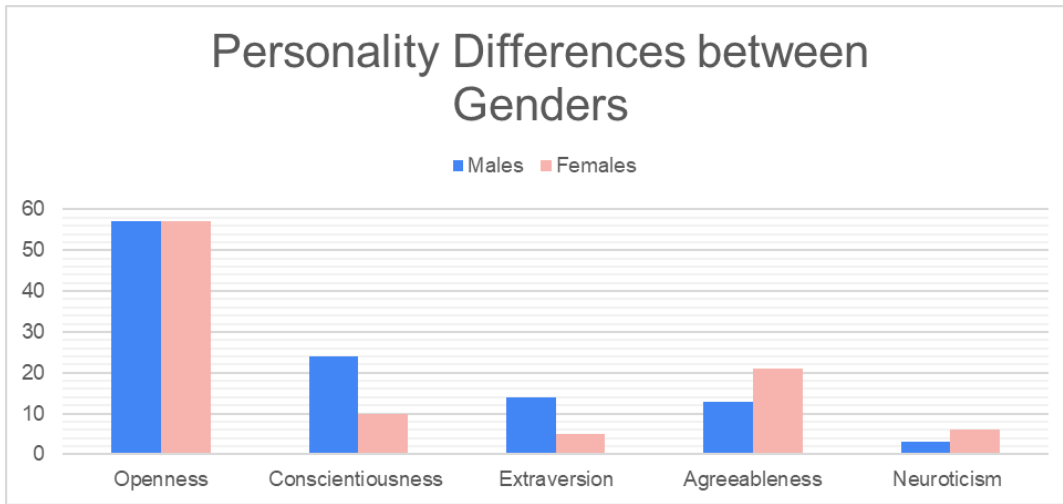
Figure 4.

The data was further analyzed to determine the Median Annual Salary difference between male and female respondents. The salary data was collected through the same primary data which was used to gather information about personality traits. The Pay Gap was determined using the formula in the figure below along with the Pay Gap present in the sample. The Pay Gap stood at 0.28 which means that for every rupee a male earns, a female earns 0.28 paisa less. However, it must be taken into account that this measure is based on median annual earnings.

$$\text{Pay Gap} = \frac{[\text{Men's median earnings} - \text{Women's median earnings}]}{\text{Men's median earnings}}$$

Figure 5.

3.3: Model and Equations

$$A = \alpha + \beta 1Y + \beta 2Gend + \beta 3Qual + \beta 4Exp$$
$$C = \alpha + \beta 1Y + \beta 2Gend + \beta 3Qual + \beta 4Exp$$
$$Exp = \alpha + \beta 1Y + \beta 2Gend + \beta 3Qual$$

The equations above form the three separate analyses conducted in this research report. Ordinary Least Square (OLS) Regression model has been used for the quantitative analysis. OLS is a statistical tool used in Economics and other Social Sciences to forecast values using one or more explanatory variables (Hutcheson, 1999)**.** Gender has been used as a dummy variable in the regression analysis. First, the trait Agreeableness (A) has been regressed against annual salary (Y) and other variables in order to identify the relationship between A and Y. The null hypothesis for the first equation is:

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H1: There is no significant relationship between Agreeableness and Annual Salary.

Model 1: OLS, using observations 1-400
Dependent variable: A

	Coefficient	Std. Error	t-ratio	p-value	
Const	36.4841	4.12550	8.844	<0.0001	***
Y	−7.62861	1.88042	−4.057	0.0002	***
Gend	4.17732	2.90277	1.439	0.1561	
Qual	0.378704	3.83915	0.09864	0.9218	
Exp	1.46773	0.670328	2.190	0.0331	**

Mean dependent var	29.21053	S.D. dependent var	11.65537
Sum squared resid	4478.343	S.E. of regression	9.280193
R-squared	0.411323	Adjusted R-squared	0.366040
Log-likelihood	−205.2523	P-value(F)	0.000012
Schwarz criterion	430.7198	Akaike criterion	420.5045
		Hannan-Quinn	424.4745

Table 1.
The p-value (0.0002) is less than the significance level (0.001) which rejects the null hypothesis. We may conclude that there is a significant relationship between Agreeableness and annual salary. This relationship is inverse in nature which means that with increase in Agreeableness, annual salary tends to decrease, all other things remaining constant. This result strengthens the case for findings in existing literature which suggest a similar relationship between Agreeableness and financial benefits (Weisberg & DeYoung, 2014) (Semykina & Linz, 2005) .
In case of the second equation, trait Conscientiousness (C) has been regressed against Annual Salary (Y) in order to determine the relationship between these two variables. The null hypothesis for this equation's regression is:

H2: There is no significant relationship between Conscientiousness and Annual Salary.

Model 2: OLS, using observations 1-400
Dependent variable: C

	Coefficient	Std. Error	t-ratio	p-value	
Const	24.4940	2.41035	10.16	<0.0001	***
Y	3.19223	1.09865	2.906	0.0054	***
Gend	−2.14870	1.69596	−1.267	0.2108	
Qual	−2.00831	2.24305	−0.8954	0.3747	
Exp	−0.106909	0.391643	−0.2730	0.7860	

Mean dependent var	31.08772	S.D. dependent var	6.522710
Sum squared resid	1528.708	S.E. of regression	5.422013
R-squared	0.358376	Adjusted R-squared	0.309021
Log-likelihood	−174.6196	P-value(F)	0.000101
Schwarz criterion	369.4545	Akaike criterion	359.2392
		Hannan-Quinn	363.2092

Table 2.

The obtained results accept the null hypothesis as the p value (0.005) is greater than the significance level of 0.001. We may conclude that although there is a positive relationship between C and Y, it is not significant and may not hold robust explanatory capacity.

For the third equation, Years of Work Experience (Exp) has been regressed against Y and other variables with the main goal of analyzing the relationship between work experience and annual salary. The null hypothesis for this equation is:

H3: There is no significant relationship between Years of Work Experience and Annual Salary.

Model 3: OLS, using observations 1-400
Dependent variable: Exp

	Coefficient	Std. Error	t-ratio	p-value	
Const	1.03876	0.833252	1.247	0.2180	
Y	2.10087	0.255343	8.228	<0.0001	***
Gend	1.58579	0.553504	2.865	0.0060	***
Qual	2.32797	0.718780	3.239	0.0021	***

Mean dependent var	8.140351	S.D. dependent var	3.492025
Sum squared resid	191.6637	S.E. of regression	1.901656
R-squared	0.719329	Adjusted R-squared	0.703442
Log-likelihood	−115.4412	P-value(F)	1.20e-14
Schwarz criterion	247.0546	Akaike criterion	238.8824
		Hannan-Quinn	242.0584

Table 3.

The obtained model results suggest a significant relationship between work experience and annual salary as the p value (<0.0001) is less than significance value of 0.001. The nature of this relationship is positive in nature which translates into increase in annual salary with increase in year of work experience.

4. Discussion

A major limitation of this research lies in its nature of being focused on primary data. During the past year, the COVID-19 pandemic has changed many aspects of life on both a micro and macro level. Due to the technological and economic constraints posed by the pandemic, the dataset could not expand more to gather a bigger sample size. A bigger sample would provide for more variation and robustness in results. This research is also limited to the universities in Peshawar city and the province of KP. Future researchers are suggested to use this pilot study in their work to gain a bigger sample and more accurate results. It will help develop a comprehensive understanding of psychological factors such as personality effect and relate to our economic sphere of life, namely salary in the case of this research. Moreover, since this research is a pilot study and relies on primary data, it has not been checked for measures against biases in self-reported answers from the respondents.

Heteroskedasticity and Normality tests are also suggested to be run in the future to control for errors and biases in data.

The area of this research study (Interdisciplinary study: Personality Psychology and Economics) is new in the context of Pakistan and can partly serve as a *pilot study* as well. Although there have been studies on the gender wage gap in Pakistan, no academic literature, as of 2020, from Pakistan is available that covers the interplay between psychology and economics in the wage gap. Due to this, the research has its limitations, yet, it is also an attempt to encourage further research on the nexus between modern psychology and economics in Pakistan. Another limitation is the absence of account for *socio-economic* and *cultural* factors in my measurements as they tend to influence the female labor participation. The effect and impact of *labor market gender discrimination, socio-cultural attitudes, gender stereotypes, educational opportunities, economic resources* and *unpaid female work* cannot be ignored as they play a vital role in determining income (Talpur, 2017) (Shaheen, Sial, & Awan, 2011) (Qadir, Tariq, & Jehangir, 2018) (Cyan, Rider, Price, & Roberts, 2019) (Chaudhry, 2007) (Qadir, Tariq, & Jehangir, 2018). This may encourage future researchers to incorporate already studied determinants of gender wage differentials along with further factors such as personality traits and things-people dimensions in order to capture a more holistic understanding. It is important to note that socio-cultural factors tend to have a meaningful impact on the gender pay gap. However, salary determinants can be highly complex and it is not a trivial endeavor to capture their entirety. Given the absence of research in this area, it is suggested that socio-cultural factors and gender discrimination may not be the only domains with potential to explain the entirety of wage differentials between men and women in Pakistan. Hence, further research in this area can play a strikingly significant role in understanding the complexity of a multifaceted phenomenon such as the Gender Pay Gap.

Moreover, on a macro-economic level, more research in this area may help policy makers in designing and understanding appropriate interventions. The support for awareness and principles against gender discrimination appears to be on a rise in Pakistan, especially accelerated due to the increased social media usage. Policy makers and businesses tend to conceptualize the issues regarding gender wage differentials using, 1. The Social Role Theory and 2. Evolutionary Psychology. The common social media and youth narrative in Pakistan, appears to tilt towards the former. They are likely to support the idea that gender differences in *personality, occupational choices* and *wages* are not due to *natural differences* but are *socially constructed*. The lens businesses and policy makers use to design mechanisms to ensure *equality of opportunity* and *just* wages among men and women tends to play a determining role. The supporters of the *Social Role theory* might suggest policies that are not in line with an employee's innate and psychological nature, while supporters of the other might suggest reforms that encourage development of an individual's natural psychological trait tendencies. The available literature suggests that gender differences in personality and choices tend to be more pronounced in *developed* and *egalitarian* economies (Schmitt, et al., 2017) (Lippa, Preston, & Penner, Women's Representation in 60 Occupations from 1972 to 2010: More Women in High-Status Jobs, Few Women in Things-Oriented Jobs, 2014) (Schmitt, Realo, Voracek, & Allik, 2008) (Bolle, Fruyt, McCrae, & Colleagues, 2015). It is suggested that *personality* and *choices* play a concrete role in deciding the type of *educational major, specializations, occupational interests* and *tenure of work* among individual men and women. These choices and differences translate into choosing careers with different income returns, in turn affecting the gender pay gap on a micro and macro level. *STEM* (Science, Technology, Engineering and Mathematics) related

jobs tend to be the highest paying careers across the globe especially due to the exponential increase in the production and demand of technology worldwide. Although there are likely to be other barriers for women to enter STEM fields in Pakistan, a decent amount of international research suggests a significant relationship between gender differences in personality and pursuing STEM fields (Su & Rounds, 2015) (Hango, 2013). These differences are shown to have a higher biological tendency rather than a support for social constructionism (Beltz, Swanson, & Berenbaum, 2011) (Lippa, Sex Differences in Personality Traits and Gender-Related Occupational Preferences across 53 Nations: Testing Evolutionary and Social-Environmental Theories , 2010) which enlarges the vacancy and importance of future research in this area, both at micro and macro level.

5. **Implications**

One of the key implications of this research is to better understand, in depth, the nature and causes behind, especially the *explained*, gender pay gap. Many people tend to suggest that wage differentials between men and women, working for the same job, is solely a product of gender discrimination. This study will attempt to explore the significance of personality traits and their effect on the gender pay gap; in order to better articulate whether the pay gap is a product of workplace discrimination alone or are there other significant factors in play as well. Understanding psychology and especially the psychology of personality can prove to be a vital source of knowledge for an individual. It helps one identify their *strengths* and *weaknesses*, upon which, an individual can make necessary behavioral and practical changes towards improvement. The knowledge of one's own personality, strengths and weaknesses not only offers a more holistic life experience but, also helps an employee or potential employee understand labor market's dynamics. It is likely to provide useful insight into the requirements and aspects firms look for when hiring. For example, a *communications manager* post at a non-profit organization working on a project for the elderly tends to go in favor of more *agreeable* individuals while *extroverts* are likely to be preferred for jobs such as an *Accounts Executive* at an advertising agency.

Furthermore, a huge body of academic and online literature has been dedicated in attempts to discuss and implement strategies to remove or at least minimize the gender pay gap. Often times, our communities and individuals seek out for a governmental reform or support as a solution for the economic inequalities. Some of the suggested policies to tackle the pay gap include; *raising minimum wage laws, improved work conditions for women through reforms, paid maternity leaves* and more (Rubery). An interesting potential solution towards '*equal pay for work of equal value*' in the private sector is the *Equal Salary Certification* from *Equal Salary Foundation*. Equal Salary Foundation is a Swiss enterprise which aims towards helping firms around the globe develop *"practical and scientific tools"* which ensures professional support from experts. It allows businesses to have more *Salary Transparency* as well as a certainty that employees, both men and women, are paid equal monetary rewards for work of equal value. The foundation charges fee for the certification and, keeps a systematic audit of transactions and financial records of a firm. Though it comes with a cost which might not be a cost-effective solution for many businesses, it is an efficient private enterprise which can help in reducing the pay gap between men and women around the globe (Salary, n.d.). A unique feature of this certification is its counter intuitiveness to a seemingly wide held narrative of seeking governmental expenditure and regulation to improve labor market outcomes. In January, 2019, *Philip Morris (Pakistan) Ltd.* became the first company in Pakistan to acquire Equal Salary Certification. In their press release, *Philip Morris International* (PMI) shared its vision of an inclusive workplace. It also expressed its dedication towards tackling the gender gap. The multinational's decision to obtain the Equal

Salary Certification is part of its long-term vision of having 40% women in managerial positions at PMI Pakistan (Release, 2019). A few notable Equal Salary Certification holders include *Ferrari, World Economic Forum, The Global Fund* and *PwC Switzerland* along with many other famous entities. It is suggested that the Equal Salary Certification is a unique and efficient way of removing discrimination driven gender gaps in work of equal value.

6. **Conclusion**

This research serves to be a pilot interdisciplinary study focused on the nexus between Psychology and Economics. Since this thesis is based on a national level research gap, it has the potential to serve as an entry point into how psychology interacts with and effects our economic life. It provides an in-depth knowledge of various theories of Personality and how its traits are measured in different ways. The research was aimed at identifying differences in personality traits between men and women. Moreover, it also focused on analyzing the relationship between Agreeableness (A), Conscientiousness (C) and Years of Work Experience (Exp) and how these 3 effect Annual Salary. The results obtained showed male and female respondents to differ in personality traits which was measured using the Big Five Inventory (BFI) 44-item questionnaire. The most significant differences were in trait Agreeableness and Conscientiousness where women scored higher on the former and men on the latter. Men were also seen to score high on Extraversion while their female counterparts scored slightly higher on Neuroticism. The trait Openness was present in all respondents. The Pay Gap in the collected sample stood at 0.28 which is healthy sign that the faculty members at IMS are not being treated unfairly solely due to their gender orientation. Although this pay gap means that women in the collected sample earned 0.28 paisas less for every rupee their male counterpart made, most of it due to the difference in other mentioned and exogenous factors which are not considered in this research. The OLS Regression Analysis was conducted for this research in order to identify the relationships between Agreeableness, Conscientiousness and Years of Work Experience (dependent variables) and Annual Salary (independent). The model suggests a significantly negative relationship between Agreeableness and annual salary which means more Agreeable individuals, on average, tend to have lower annual salary. Conscientiousness showed a positive but a statistically insignificant relationship with annual salary. Moreover, years of work experience appears to have a significant and positive relationship with translates into higher annual salary with increase in work experience. The data collection and analysis were based on primary data hence, the limitations mentioned are suggested to be considered when further developing this line of research. It is important to note that though these personality traits explain a portion of the gender pay gap and annual salary differentials, the discrimination in the global labor markets against women cannot be overlooked or understated. It is crucial to incorporate the socio-cultural norms and generational teachings while trying to understand this treatment towards women in the workplace. The policies mentioned in the implications and discussion chapter will further help provide for a better framework where both male and female employees will be paid equally for work of equal value. It may also prove to be a significant step towards reducing and eventually removing barriers for women to enter into the labor force.

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