

## Development And Validation Of Queen Bee Syndrome Perception Inventory (QBSPI)

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### Abstract

The present study intended to develop and validate queen bee syndrome perception inventory among female employees in Islamabad, Pakistan. The scale was developed through successive three parts. In study I, 50 items were generated while reviewing relevant books, journals, and internet to explore eminent research data bases including; SpringerLink, J. Store, Taylor & Francis and Elsevier for latest literature. As a result of group discussions and subject matter expert opinions, the number of items was reduced to 27. In study II items were assessed for their content validity, comprehension and understanding by potential participants. In Study III the sample of 200 female employees were recruited from; International Islamic University, Bahria University, Air University & FAST University in Islamabad. A Principal Component Analysis was carried out using varimax rotation. Kaiser-Meyer-Olkin measure of sampling adequacy was also determined and Bartlett's test of sphericity showed significant values indicating suitability for running a factor analysis. Resultantly, final instrument comprised of 18 items two dimensions i.e., resentment and nonprofessional attitude. Additionally, the instrument was correlated with constructs perceived organizational support in order to establish discriminant validity and autocratic leadership style in order to establish convergent validity.

**Keywords:** queen bee syndrome, gender stereotypes, gender discrimination, resentment, nonprofessional attitude.

### Introduction

**“Queen bees still exist, but it’s not the women we need to fix”! (kimelsesser, 2020)**

The queen bee syndrome phenomenon was first described by Staines et al (1973). It implies to the process of discrimination of female employees done by another female in higher ranking position. It usually happens in the male-dominant contexts. The woman acting as authority figure exercising

control over other female co-workers is referred to as a 'Queen Bee'. The dominant characteristics of a queen bee include; legitimate, overly critical, narcissistic, less cooperative, less supportive, lack of professional attitude, resistant to provide guidance to subordinates, gender stereotypic, adhering to male philosophies, less accommodating and underestimating towards subordinates' abilities and performances (Derks, 2011; Ellemers, 2014).

The queen bees tend to prefer men over women (Kaiser & Spalding, 2015; Mavin, 2006). Further studies revealed that queen bees also hold certain beliefs such as they are more committed and superior than juniors. Juniors are less experienced and incompetent therefore, they can't be given value, respect, appreciation or opportunities equal to seniors (Suharnomo & Permatasari, 2019). The females acting as queen bees tend to hinder professional growth and development of their subordinates and don't share their knowledge and skills. Although some women play encouraging and motivating role for their subordinates, most of them are discriminatory and antagonistic. The women on authority positions adopt aggressive and humiliating attitude towards their subordinates. They distance themselves from their subordinates and perceive them as competitors and threat to their own success (Cowan et al. 1998).

Even though it is assumed that men in authority positions have biases against women, literature revealed that women holding authority positions show more negative attitude towards their female subordinates (Arvate et al., 2018; Faniko et al., 2021). There are competing arguments about whether or not queen bee is a myth as there is no equivalent term relating to males so far. Some believe that queen bee is just an outdated gender stereotypical term while others hold that queen bee is a wrong label attached to a complex behavior pattern and may render misinterpretations and false understanding of dynamics of working women (Formanowicz, 2021). However, the queen bee phenomenon may become relatable to females specifically due to many reasons. It is evident that females face much difficulties in their attempts to achieve high-ranking professional positions. They encounter gender discrimination, suppression and stereotypical attitude as compared to males. So, the probability for females to develop queen bee syndrome becomes quite higher (Babalola et al., 2021; Drexler, 2013).

Recent research postulates that the queen bee phenomenon may be a product of either external factors for instance; expectations, environment, working context, lack of opportunities, gender stereotypes, gender discrimination, culture etc. or internal factors such as; thoughts, feelings, personality traits or past experiences (Cibibin & Leo, 2022).

The theories of group socialization and social identity highlight few of potential external factors which may possibly underlie queen bee syndrome. The theory of group socialization holds that behavior and expectations of group members are responsible for developing queen bee culture. When socialization process is associated with management ranks, mainstreaming of labor force occurs consequently, suppressing the goals and identities of subordinates which may inculcate the 'identity threat' among them. This in turn, leads female leaders to adopt queen bee culture in order to survive and prove their managerial abilities. They do it by adopting and reinforcing male philosophies and considering themselves different from their subordinates (Derks et al., 2011).

On the other hand, the theory of social identity explains that it is the gender of a person that establishes individual identity. Therefore, appointment of a female employee on authority positions provokes negative gender specific stereotypes related to females. For instance, females are thought to hold feelings of jealousy, resentment and grudges for each other. The literature also supports this notion of having unconstructive and uncooperative working relationship among female employees working in the same institution (Stets & Burke, 2000). Such issues may lead to deadly and toxic working relationships which in turn creates environment that gives rise to the queen bee phenomenon.

Another potential reason that may promote queen bee culture is the tendency of female leaders to adhere to male philosophies and following masculine leadership tendencies. Such tendencies can be better explained with the help of social theory of gender roles. This theory posits that people have to play certain gender specific roles for their survival in society. However, there are some long standing gender stereotypes existing in our cultures wherein females are believed to lack traditional leadership qualities such as assertiveness, decisiveness, credibility, practical and achievement orientation. These leadership qualities are often perceived as masculine. Consequently, it brings pressure upon female leaders to adopt masculine traits. It is observed that high achieving females may face trouble due to lack of opportunities for women in men dominating societies. This conflict between a female's career goals and stereotypical attitude towards them may lead to development of a queen bee syndrome. With few available top positions, female leaders may distance themselves from other females and tend to exhibit masculine traits in order to protect their position (Mufti, 2021).

Literature suggests that internal factors such as thoughts, fears, insecurities or personality traits or subjective experiences are equally responsible for development of queen bee syndrome. Duguid (2011) argues that female leaders are more likely to act as queen bees because of a 'value threat'. It happens when some people regard their own group as more valuable than others. There are two types of value threat thought to be related to queen bee phenomenon. First one is known as competitive threat that occurs when a female leader perceives a highly qualified and competent subordinate as a danger or threat. The second type of value threat is known as collective threat and it takes place when female incumbents believe that the low qualified and less experienced subordinates will negatively affect their image. These threats lead to various job-related insecurities and fears. Consequently, female incumbents develop feelings of disliking, jealousy and resentment towards their subordinates therefore, become less rewarding, harsh, critical and uncooperative to their subordinates (Srivastava and Sherman 2015).

Agnieszka Gromkowska-Melosik (2014), points out one of the contexts of her qualitative research with groups of women in academics and private firms. The statements of both academia and managers provides a clear indication of discriminatory practices taking place within groups of women. The opinions of the participant's indicate that females tend to depreciate their own gender due to gender relate negative attributes such as emotional instability, inability to stay focused, complex nature, low career commitment and lack of leadership skills. Zhao & Foo (2016) notice that many people think that queen bee phenomenon may result from a 'difficult female

personality'. According to them, the subordinates perceive queen bees as insensitive, selfish and power hungry. If any senior female come with a queen bee reputation, junior subordinates tend to avoid working under her.

Literature suggests that quite often queen bee phenomenon brings along various detrimental consequences for both employees and their respective organizations. The queen bee culture promotes favouritism, injustice, prejudice and discrimination that in turn creates negative impact on employees and organizational productivity. Hoyt and Murphy (2015) reveal that female subordinates who become victim of queen bee phenomenon are more likely to experience stress, depression, frustration, low work motivation and poor work performance. This in turn creates negative impact on organizations in form of low productivity, decreased job satisfaction and increased turnover rate (Indeed et al., 2020). However, fewer qualitative studies also report perceptions about positive aspects of queen bee phenomenon such as the services may become faster when queen bees act as strict, controlling and demanding. The subordinate may attempt to perform better in order to avoid any criticism and humiliation expected otherwise (Permatasari and Suharnomo, 2019). It can be inferred from the available body of literature that queen bee phenomenon could be treated as a consequence rather than cause. Therefore, the solution for the queen bee issue can't be attained by fixing women, rather it is important to fix the factors producing the queen bee phenomenon.

Since, focus in the current study was to measure perception of the queen bee syndrome phenomenon, Perceived Organizational Support (POS) and Autocratic leadership style was considered as potential correlates for queen bee syndrome. Past research indicates that female leaders having queen bee syndrome tend to adopt autocratic leadership style. They tend to take decisions at their own, show little interest in taking inputs from employees and appear directive and controlling. On the other hand, employees perceive low organizational support, lack of acknowledgment or appreciation from such leaders (Eisenberger et al., 1986; Harms et al., 2018). Therefore, in present study Perceived organizational Support (POS) is considered as a negative correlate and Autocratic leadership style is considered as a positive correlate for the newly developed Queen Bee Syndrome Perception Inventory (QBSPI).

### **Psychological Correlates for QBSPI**

The correlates for queen bee syndrome perception inventory (QBSPI) as identified via empirical researches are perceived organizational support scale and autocratic leadership style scale. The correlates are briefly discussed as follows:

- 1. Perceived organizational support (POS).** It refers to the employee's perception about the extent to which their organization acknowledges their contribution and show concern for their well-being. There are negative correlates between perceived organizational support and the queen bee traits (Rhoades and Eisenberger, 2002). High perceived organizational support correlates positively with job commitment, job satisfaction, and job involvement. By the same token, employees with low perceived

organizational support feel distressed, dissatisfied with job, having low committent and achievement motivation (Eisenberger et al, 1986). Therefore, in order to establish the discriminat validity of newly constructed QBSPI scale, POS is used as a correlate.

- 2. Autocratic leadership style.** It is a leadership style that characterizes individual control, rigidity, low cooperation and low accommodation in all matters. Autocratic leaders usually keep a distance from group members and hardly involve them in any kind of decision-making process. This style directly correlates with many of the queen bee syndrome tendencies (Harms et al., 2018). High autocratic style correlates positively with resistance, aggression, rigid behaviour, overly critical attitude, narcissism and detachment from employees. Similarly, low autocratic style shows that the leader is flexible, cooperative and supportive to subordinates. Therefore, present study conceptualizes autocratic leadership style scale as a measure of convergent validity for QBSPI. The current study is specifically intending to develop and validate QBSPI in order to assess perception of female subordinates about their female leaders.

## **Rationale**

The current study thus aims to call attention towards the growing phenomenon of queen bee syndrome among female employees. In order to maintain healthy and productive working dynamics and bring desirable consequences, it is important to immediately initiate further research for suggesting effective measures to deal with it. Although this phenomenon is existing in almost every professional setup, yet the evidence coming from existing literature indicates that it is rapidly growing in the fields of education and health care (Butts et al., 2018). Since we have separate education setups in Pakistan for males and females, the educational institutions meant for women have females on all higher administrative and teaching posts. Moreover, females are also working on higher positions in co-education systems. Therefore, it is important to explore this phenomenon in educational institutes specifically.

Despite of this louder calling to investigate this disharmony between females, there is scarce of literature in Eastern culture particularly in Pakistan. However, much of the work is done in this area in Western culture (Carr & Kelan, 2016; Derks et al, 2011; Faniko et al, 2016; Faniko et al, 2017; Kaiser and Spalding, 2015; Kinnear, 2016; La Mattina et al , 2017). The findings from the Western research might not be adequately relating to Eastern culture. Moreover, a significant portion of queen bee literature is qualitative in nature and instruments directly measuring queen bee syndrome or assessing perceptions about this phenomenon are almost non-existent. Therefore, present study seeks to fill in literature gap by providing a fresh quantitative measure of queen bee perception among female employees. It will help disclose couple of new aspects of queen bee perception i.e. resentment and non-professional attitude of leaders. These subscales are a part of this new inventory. Since women representation in educational and organizational setups is increasing, this study will provide a holistic understanding of queen bee phenomenon and its causes, nature and consequences. It will further help in exploring queen bee perceptions in Pakistani context thus providing culturally relevant data for further research.

## Method

The present study was conducted in three main parts. Specific objectives relating to each study are summarized below:

### Objectives

1. **Study I** - To develop item pool for scale to measure queen bee syndrome perception among female employees working in educational institutes.
2. **Study II** – To conduct pilot testing to figure out ambiguous items and assess understanding of the participants for the generated items of queen bee syndrome perception inventory (QBSPI).
3. **Study III**- (i) To explore factor structure for queen bee syndrome perception inventory (QBSPI) using exploratory factor analysis (EFA)  
(ii) To establish psychometric properties i.e., reliability, discriminant and convergent validity for the queen bee syndrome perception inventory (QBSPI).

### Procedure

The procedure adopted to carry out three phases of the study is detailed below:

#### Study1. Item generation

Queen Bee Syndrome Perception Inventory (QBSPI) was constructed to measure perception of queen bees Syndrome among women working in educational set ups. A wide range of items relating to topic was elicited with the help of existing literature (books, journals, online research data base etc.) Specific material from relevant sources was collected and assessed thoroughly to develop preliminary item pool of 50 items. Through careful analysis, group discussions and opinions of subject matter experts, themes were identified and the most valid of the items were chosen for inclusion in a comprehensive item pool. As a result, the item pool reduced to 27 items. The items comprised of theoretical constructs representing two major themes. The first theme related to employees' perception regarding disrespect, rigidity, or resistance shown by their boss. The items in first section were based on the theoretical premises that queen bees act rudely, rigidly and in disrespectful manner with their employees. The second theme entails perceptions about unethical, inappropriate and unfair treatment of the boss with employees. The examples of selected items relating to each theme are summarized in a table below:

**Table 1** Examples of selected items extracted from literature

S. No	Sample Item	Theme	Selected Sources
1.	Makes employees feel insecure regarding stability of their job	1	Cowan et al., 1998; Carr and Kelan, 2016;
2.	Resistant towards changes according to given suggestions	1	Derks et al, 2011; Faniko et al, 2016;

3.	Challenges employees' self-esteem	1	Faniko et al, 2017;
4.	Often uses authority for personal gain.	2	Kaiser and Spalding;
5.	Thinks she is always right	2	2015; Kinnear, 2016; La
6.	Lacks professional attitude	2	Mattina et al, 2017; Ellemers, 2014; Derks, 2011.

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After finalizing items, scale was put up for the next stage i.e., pilot testing.

### **Study 2. Pilot Testing**

The questionnaire was tested on a sample of 20 participants before conducting a proper try out. The purpose of pilot testing was to assess the understanding of the participants and to identify ambiguities in the questionnaires. The participants were asked to point out difficult items and such items were modified and simplified as a result.

### **Study 3. Final Administration (Proper Tryout)**

After pilot testing and preliminary analysis, the questionnaire was administered over a larger sample in order to establish psychometric properties as well as to assess the perception of queen bee phenomenon among female employees.

### **Sample**

The study included 200 participants in total. The sample was taken out using convenience sampling technique.

### **Inclusion criteria.**

- i. Only female participants were included in the sample.
- ii. The participant's ages ranged between 25 to 45 years.
- iii. Only those female employees working under a female boss.
- iv. Only educational institutions were approached to take out sample.

### **Exclusion criteria.**

- i. Male employees were excluded from the sample.
- ii. The employees who didn't meet the age criteria
- iii. Fresh employees or those having job duration less than six months.
- iv. Female employees working under male boss.
- v. Organization other than educational institutions.

### **Instruments.**

The instruments used in present research are discussed below:

### **Queen Bee Syndrome Perception Inventory (QBSPI).**

The item pool for developing this scale comprises of 27 items to be responded on a 5-point Likert type format. The response options include; Never (1), Rarely (2), Sometimes (3), Often (4) and Always (5). The score range for the positively created items is to be reversed. These items include; Item # 05, Item # 09, item # 13, item # 14 and item # 18. The items of the scale are designed in such a manner that a high score on the scale will reflect stronger perception of female bosses acting as queen bees among female subordinates and vice versa.

### **Perceived organizational support (POS)**

This scale was constructed by Eisenberger et al, (1986). It consists of eight items measuring the extent of perceived organizational support among employees. The responses on this scale are elicited on a five-point rating scale ranging from 1= strongly disagree to 5= strongly agree. It consists of four reverse coded items i.e., item # 3, item #7, item # 17 and item # 23. High scores on the scale reflect that employee strongly perceive their organizations as highly supportive and value their contribution and vice versa.

### **Autocratic leadership style Scale**

This scale was developed by Simon Oates in 2010. The scale consists of four items with a five-point likert format for eliciting responses. The response options range from 0= strongly disagree to 4= strongly agree. There are no reverse coded items in this scale. High score on the scale reflects that leader is highly autocratic and vice versa.

### **Data Collection**

The researcher approached the participants and briefed them about the purpose of study. They were assured about the confidentiality of their data. The researcher took informed consent and allowed them to withdraw from study at any point if they want. The data were collected using informed consent, demographic sheet and QBSPI. The participants completed their questionnaires in their own time. After completion, the researcher collected questionnaires back from participants.

### **Data Analysis**

The data were analyzed using SPSS version 22.0. The psychometric properties of the scale were established using exploratory factor analysis, concurrent validity, item total correlation and Cronbach alpha. The scores on the scale were used to assess the perception of queen bee phenomenon among employees.

### **Results**

**Table 2** Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity (N = 200)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.91
Bartlett's Test of Sphericity	Approx. Chi Square. df	2429.68 153



P

.000

\*\*\*p <.001

Table 2 shows Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity. The value of KMO test was .91 which is significant. Kaiser (1974) recommended 0.8 to 0.9 values are highly significant values (Hutcheson & Sofroniou, 1999). So, the calculated value proved that sample size was sufficient. Bartlett's measure tests should have significant value < .05. For current data, Bartlett's test was highly significant p <.001, and therefore factor analysis is appropriate. Bartlett's Test of Sphericity  $\chi^2 (153) = 2429.68$ , p < .001, indicated that correlations between items were sufficiently greater for principal component analysis (Field, 2009).

**Table 3** Total Variance Explained by all factors given by (N = 200)

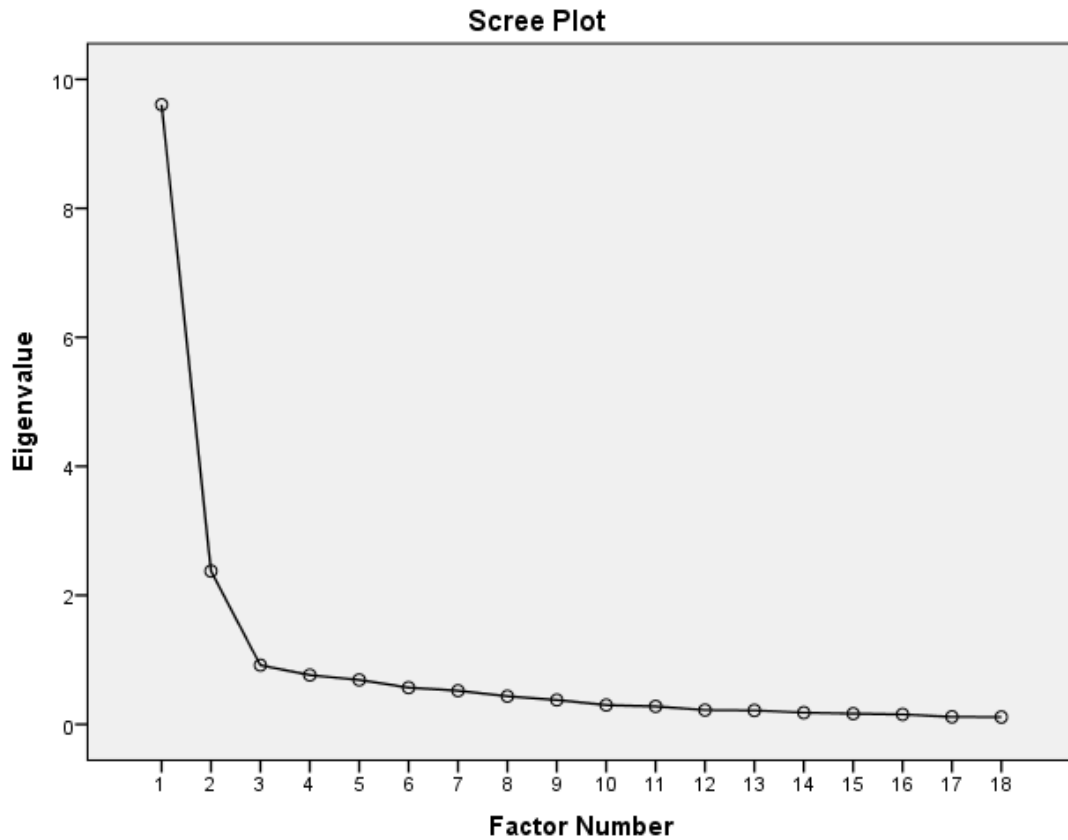
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	9.60	53.37	53.37	9.60	53.37	53.37	7.85	43.62	43.62
2	2.37	13.20	66.57	2.37	13.20	66.57	4.13	22.94	66.57

Table 3 indicates that overall, two factors had Eigen values over Kaiser's criterion of 1 and in combination 66.57 of the variance was explained. The 66.57 of variance was explained in factor 2 and 53.37% in factor 1. The results revealed that the factor analysis was suitable for the items of the QBSPI.

**Scree Plot**

The scree plot graphically exhibits the Eigen values for each factor, which suggests a 2-factor solution.

Figure 1. Scree Plot for Factor Matrix of 18 items of QBSPI



Note. The scree plot suggested two factors and all those items having loadings less than .30 (i.e., 10% of variance) on their respective factor are deleted. All those items having cross-loadings greater than .30 on multiple factors are also deleted (Field, 2005).

**Table 4.** Factor Structure for queen bee syndrome perception inventory (QBSPI) (N=200)

Factors		F1	F2
<b>Factor 1. Resentment</b>			
01	Tends to hinder employee's progress/promotions	<b>.85</b>	.25
02	Makes employees feel insecure regarding stability of their job	<b>.79</b>	.28
03	Seems biased towards cultural diversity	<b>.67</b>	.28
04	Appears cold most of the times	<b>.80</b>	.25
05	Encourages employees to perform better	<b>.78</b>	.20
06	Refuses to give due credit to employees for their performance	<b>.64</b>	.26

07	Resistant towards changes according to given suggestions	<u>.69</u>	.16
08	Challenges employees' self-esteem.	<u>.72</u>	.19
09	Inspires all employees	<u>.67</u>	.24
<b>Factor 2. Nonprofessional Attitude</b>			
10	Lacks professional attitude	.38	<u>.74</u>
11	Resistant to discuss work-related issues	.13	<u>.79</u>
12	Resistant to help employees learn new skills	.16	<u>.70</u>
13	Promotes a climate of trust	.21	<u>.82</u>
14	Takes responsibility for employee's growth and development	.16	<u>.79</u>
15	Often uses authority for personal gain.	.20	<u>.68</u>
16	Uses authority to make decisions in her favor	.12	<u>.74</u>
17	Thinks she is always right	.26	<u>.73</u>
18	Makes good decisions for employees	.32	<u>.84</u>

The factor loadings from rotated factor solution are shown in above table. The above table indicates that a principal components analysis (PCA) was conducted on the items with orthogonal rotation (varimax). The table revealed loading of eighteen variables; two factors were extracted by the results. For each variable, the component for which the variable has the highest loading was noted. Minimum criteria for item loading were 0.3. These two factors represent common themes in the items that were loaded. The Two factors have been extracted based on factor loading. Factor 1 contains items (i.e., 05, 07, 08, 10, 17, 19, 20, 04, 22) and factor 2 (i.e., 11, 12, 13, 14, 15, 23, 25, 21, 26). The results of the exploratory factor analysis (EFA) are summarized below and each factor is assigned a suitable title:

**Factor I: Resentment.** The first factor consists of 9 items that explained 43.62% of the variance. This factor involves items relating to bitterness, disrespect, jealousy, resistance, rigidity and biased attitude of female bosses towards their subordinates. Therefore, we entitled this factor as 'Resentment'. An example item includes "Tends to hinder employee's progress/promotions". The higher score on this factor suggests higher level of resentment towards employees.

**Factor II: Nonprofessional Attitude.** The second factor consists of 9 items and explained an additional 22.94% of the variance. The items included in this factor specifically measure improper or unethical conduct of female bosses. Therefore, we entitled this factor as 'Nonprofessional

Attitude'. The example item includes "Often uses authority for personal gain". A higher score on this factor suggests lack of professional attitude.

**Table 5** Cronbach Alpha Reliability Coefficients of subscales of Queen Bee Syndrome Perception Inventory (QBSPI) (N = 200)

Subscales	N	M	SD	A	Skewness	Kurtosis
Resentment	09	23.29	8.86	.90	.13	-1.05
Nonprofessional attitude	09	24.14	9.24	.89	-.02	-.74

Table 5 elucidates the means and standard deviation, Cronbach alpha coefficients and level of skewness for study variables i.e., resentment and nonprofessional attitude. The alpha coefficient value for factor 1 i.e., resentment is reported as .90 whereas the alpha coefficient for factor 2 i.e., nonprofessional attitude is reported as .89. These values suggest that subscales show good reliability.

**Table 6** Correlations of the subscales of Queen Bee Syndrome Perception Inventory (QBSPI) (N = 200)

	Subscales	I	II
I	Resentment	-	.90**
II	Nonprofessional attitude	-	-

\*\*p<.01

Table 6 demonstrates correlation values between subscales of QBSPI. The results show that resentment has significant positive correlation ( $r=.90$ ,  $p<.01$ ) with nonprofessional attitude.

**Table no. 7** Inter-item correlation matrix for Queen Bee Syndrome Perception Inventory (QBSPI)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	1.00																		
2	.78**	1.00																	
3	.64**	.64**	1.00																
4	.79**	.76**	.63**	1.00															
5	.39**	.36**	.36**	.37**	1.00														
6	.58**	.62**	.51**	.51**	.30**	1.00													
7	.56**	.57**	.43**	.57**	.21**	.57**	1.00												
8								1.00											
9	.72**	.65**	.59**	.75**	.34**	.53**	.49**	.26**	1.00										
10	.37**	.42**	.42**	.36**	.58**	.29**	.25**	.63**	.45**	1.00									
11	.74**	.73**	.68**	.74**	.46**	.52**	.55**	.54**	.30**	.72**	1.00								
12	.69**	.66**	.67**	.64**	.26**	.42**	.60**	.51**	.26**	.61**	.72**	1.00							
13	.55**	.48**	.54**	.57**	.30**	.50**	.60**	.27**	.62**	.48**	.27**	.34**	1.00						
14	.39**	.40**	.35**	.39**	.64**	.30**	.37**	.26**	.51**	.44**	.27**	.29**	.71**	1.00					
15	.30**	.32**	.36**	.28**	.70**	.39**	.24**	.55**	.24**	.53**	.54**	.50**	.29**	.29**	1.00				
16	.66**	.58**	.51**	.52**	.34**	.58**	.46**	.45**	.34**	.55**	.65**	.54**	.24**	.15**	.53**	1.00			
17	.71**	.61**	.51**	.62**	.25**	.50**	.57**	.56**	.35**	.55**	.55**	.61**	.43**	.32**	.68**	.68**	1.00		
18	.68**	.61**	.44**	.58**	.30**	.64**	.67**	.43**	.69**	.51**	.33**	.36**	.76**	.68**	.37**	.39**	.51**	1.00	
	.49**	.50**	.41**	.49**	.74**	.46**	.36**												

\*\*p<.01

Table 7 indicates the inter-item correlation values for all items of Queen Bee Syndrome Perception Inventory (QBSPI). The results show significant inter-item correlation at p<.01 level.

**Table 8** Correlations Queen Bee Syndrome Perception Inventory (QBSPI) and Perceived Organizational Support (N = 200)

Variables	1	2	3
1 Resentment	-	-	-.18*
2 Nonprofessional attitude	-	-	-.10*
3 Perceived organizational support	-	-	-

\*p<.05.

Table 8 indicates values for discriminatory validity for the newly developed scale. The results reveal that resentment is significantly negatively correlated ( $r = -.18, p < .05$ ) with perceived organizational support and subscale nonprofessional attitude is also has a significant negative correlation ( $r = -.10, p < .05$ ) with perceived organizational support. Thus, the values indicate that discriminatory validity is established.

**Table 9** Correlations between Queen Bee Syndrome Perception Inventory (QBSPI) and Autocratic leadership style (N = 200)

	Variables	1	2	3
1	Resentment	-	-	.14
2	Nonprofessional attitude	-	-	.06
3	Autocratic leadership style	-	-	-

Table 9 indicates values for convergent validity for the newly developed scale. The results reveal that there is no correlation between subscales (resentment and nonprofessional attitude) of Queen Bee Syndrome Perception Inventory (QBSPI) and autocratic leadership style. Therefore, convergent validity is not established.

## Discussion

Present research was designed to develop an inventory for the assessment of queen bee syndrome perception among female employees working in educational set ups. Queen bee is the idea which reflects bad attitude of female leaders having the tendency to distance themselves from their subordinates, always showing negativity towards them and creating obstacles for them (Mavin and Grandy, 2012). Queen bee is an indicator that women may become worst enemies to each other (Ellmers, 2014).

Exploratory factor analysis revealed two factors. The value of KMO test was .91 which is significant and lies above from the recommended value of .5. For current data, Bartlett's test was highly significant  $p < .001$ , and therefore factor analysis is appropriate. Bartlett's Test of Sphericity  $\chi^2(153) = 2429.68, p < .001$ , indicated that correlations between items were sufficiently greater for principal component analysis (Field, 2009). Other researches also reveal the queen bee phenomenon exists in real world in many different forms such as; queen bee intimidates her subordinates by underestimating, blaming, criticizing, rebuking and embarrassing them on different platforms (Dill, 2014). Another research proclaims that queen bee keeps their subordinates from reaching higher career opportunities and blocks professional growth and development. (Dill, 2014 and Kets, 2016). Kinnear (2015) also found that in case queen bees are observed supporting their subordinates, it would only happen because of some underlying personal benefits.

The first factor which is identified as resentment. This factor includes 9 items which measure intimidating or biased attitude towards subordinates. For instance, "Appears cold most of the times", "Refuses to give due credit to employees for their performance". Other researches also

reveal the same tendencies among queen bees. Derks et al (2015) manifests that queen bees tend to hamper progress of their subordinates and evaluate their performance in negative ways with an intention of spoiling their career. Many other studies (Carr and Kelan, 2016; Hurst et al, 2016; Mavin, 2006) suggest that queen bees often become cruel, rude, aggressive, rigid, humiliating and arrogant towards their subordinates.

The second factor is identified as nonprofessional attitude which consists of items relating to unethical or inappropriate behavior of female leaders towards their subordinates. For instance, “Lacks professional attitude” and “Uses authority to make decisions in her favor”. Previous researches revealed that the high achiever females earning higher job ranks believe that they are more qualified, experienced and skilled and therefore consider themselves superior to their subordinates. They classify themselves as more ambitious, professionally committed and then their junior colleagues (Faniko et al, 2017). In another research queen bees perceive their success as a result of their own hard work in the absence of any gender equality policy. Therefore, they believe that their juniors are also supposed to adopt the same difficult path in order to achieve success in their career (Mavin, 2006). They think that the juniors don’t make enough sacrifices and efforts to achieve success as they did. Such irrational beliefs of queen bees result in uncooperative or nonprofessional attitude towards subordinates (Webber & Giuffre, 2019; Wuertele & Ramona, 2017).

Results further reveal that the subscales of Queen Bee Syndrome Inventory (QBSPI) show good reliability (resentment, .90 and nonprofessional attitude, .80). The correlation analysis between subscales show that resentment has significant positive correlation ( $r=.90$ ,  $p<.01$ ) with nonprofessional attitude. Moreover, the subscales of QBSPI show significant negative correlation with perceived organizational support scale hence, providing evidence for discriminant validity for QBSPI. However, convergent validity between QBSPI and autocratic leadership style couldn’t be established. Although evidence for correlation between autocratic leadership style and queen bee traits comes from existing literature (Harms et al., 2018) yet, it is important to note that great deal of research belongs to western culture. So, the probability of having inconsistent results due to cultural, contextual differences remains intact. Secondly, standardized scales for measuring queen bee perception are not currently available so, choosing a relevant construct for establishing convergent validity was a big challenge. However, this instrument will serve as a correlate of convergent validity for new instruments measuring queen bee perception in future. Summing up, the overall psychometric analysis reveals that the newly constructed QBSPI is a good and reliable measure of queen bee syndrome perception.

### **Limitations and Implications**

The results of the present study can’t be generalized since the sample was small and data collection was delimited to the areas of Rawalpindi/Islamabad only. The queen phenomenon was only explored in academic (universities) setups because including variety of different setups was beyond the scope of this study. The study can be extended to explore different cultural contexts, organizational set ups and other academic units such as colleges, schools etc. However, the study

provided deeper insights into the nature, causes and consequences of the queen bee phenomenon. It will help to understand the factors that may actually provoke queen bee phenomenon and the impact it can have on the people and environment. Being aware of such factors might help in controlling and reducing this phenomenon to a considerable extent.

The study will also help people realize that employed females need more harmony, support, trust and cooperation in their working relationships than they are currently exercising. This inventory will call attention if hiring managers to screen out and prepare psychological profile of female candidates before recruiting them to higher positions. Additionally, the same inventory can be helpful in assessing the opinions or perceptions of the subordinated towards their female leader throughout their job tenure.

### **Conclusion**

This study is unique mainly because it provides objective measurement of perception about queen bee syndrome in contrast to existing literature that focuses on exploration of queen bee phenomenon in qualitative terms. However, current study will allow for quantitative measurement of queen bee perceptions in future. This study also provides rich information about the queen bee syndrome and its detrimental effects on organization and employees. The instrument will help in analyzing the prevalence of queen bee tendencies among female leaders in academia. In addition to identification, eradication of queen bee phenomenon is equally important for organizational productivity and for psychological health of all employees. Therefore, the present study will provide room for further new researches in this area.

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