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# Impacts of Cognitive Factors and Fitness on Female Faculty at a Regional University in Bangladesh on Their Teaching and Learning: Activating Cognitive Skills by Overcoming Challenges

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## Abstract

The study tries to explore why females generally get less and sometimes unintentionally show less cognitive fitness when they work alongside male partners and colleagues. This study tries to focus on some impacts of psychological and motivational factors working both negatively and positively in their learning and teaching context. This study tries to figure out some cognitive functions or cognitive capacities of female faculty members that are inherently there but cannot be shown/expressed/activated although they are needed in their acquisition of knowledge, manipulation of information, and reasoning. This study aims to find out some reasons for being incapable (if any) of giving proper attention towards active and trained teaching programmes. Fourteen female teachers were selected from a regional university (University-G) on the basis that they were female faculty members and working mothers, and were asked some questions. They were given questions via Google Form online. The interviews were conducted after selecting some female teachers. This analysis would be based on psychologist Albert Bandura's (1986) Social Cognitive Theory. Both qualitative and quantitative data analysis will be used as it will be a mixed-methods study. This study will find out what obstacles they are facing in their job environment as well as in their family. The pressure and distraction from male dominance and psychological trauma are responsible for creating obstacles and can be a possible outcome of the study result. Future implications, limitations, requirements, obligations, challenges, and recommendations can be easily identified by the end of the study. By defining the term "cognitive fitness", many more features of cognitive skills will be mentioned in the study

which will be beneficial to female educators. To enhance their creative faculties, there is no other way to master this topic. At last, this study will illustrate the causes of failure in acquiring cognitive skills by female teachers and try to give some suggestive techniques and solutions to overcome this problem.

## Keywords

Cognitive Factors, Cognitive Fitness, Psychological Factors, Behavioral Factors, Environmental Factors, Challenges

## 1. Introduction

To give suggestions on how to confront life's challenges by attaining mental peace, the Korean teacher Haemin Sunim's book "Love for Imperfect Things", mentions that his friend gave him advice: "First, be good to yourself, then to others". One chapter is about existence and states that "your existence is already enough". You have to love your imperfect self and consider how you can accept yourself in a world striving for perfection. As human beings, we are expected and supposed to do everything perfectly and fulfill others' expectations. Thus, we get tired of it. Especially, working women face difficulties, and they struggle to keep pace with the modern, technologically advanced world because they have many types of duties in their job sectors.

To cope with it, psychological fitness and cognitive skills are essential factors which have a great influence on the teaching capacity of women and their workplace psychological assessments. This assessment measures some crucial aspects of personality, ability, and individual behavior. Social, mental, physical, and emotional health are vital components of fitness and help perform daily work activities effectively. Counseling, creating a comfort zone, proper treatment, and support from peers are mandatory aspects of acquiring mental peace to perform tasks well.

Women face many obstacles in continuing their jobs. For various reasons, they cannot be as competent as their male partners and colleagues. According to the definition by Gottfredson (1981), cognitive ability is defined as a general mental capacity involving reasoning, problem solving, planning, abstract thinking, complex idea comprehension, and learning from the experience of gathering knowledge and reading. Cognition is a skill to carry out any task by understanding the world around us and acting in it. Basically, it is a set of mental abilities and empowerment in active mental performances. A mental fitness for work assessment usually follows mental health issues such as sickness, concerning behaviors, etc. Sometimes women become unable to carry out their job safely and decide to quit in many cases. In-law house pressure from patriarchal thought, ill-treatment from colleagues, peer pressure, harassment, jealousy, taking care of children, not getting any day-care service, social obligations, extreme family chores, etc., can be possible reasons for weak cognitive skills that have negative impacts on teaching properly. Women have to manage everything at once and everyone expects a lot

from them. Thus, they are getting tired of everything. They are de-motivated in every sector of life. This study will try to recapitulate all the issues that are acting as barriers to their cognitive performance.

My focus, according to the demand of the title, will be basically on **cognitive skill, cognitive psychological development of female faculties at the university level, criteria to maintain mental peace, psychological effects on the study and teaching of female teachers, challenges and barriers to developing cognitive capacity and fitness, etc.** I will talk about future implications, influences, and changes in the Bangladeshi educational context, and the topic will include methods and ways to develop cognitive skills in teaching at the tertiary level exercised in universities, as well as techniques and strategies followed at the tertiary level to develop cognitive faculties of women. It will also cover the challenges, limitations, and constraints of ensuring positive impacts of cognitive abilities on teaching sectors.

## 2. Literature Review

### 2.1. What Is Cognitive Psychology

Cognitive psychology is a field of psychology. It discusses how people think. It attempts to explain how and why we think the way we do. By interpreting the interactions among human thoughts, passions, emotions, creativity, language, and problem-solving abilities, in addition to other cognitive processes, it functions as a psychological concept. Cognitive psychologists seek to calculate and examine various types of intelligence, why some people are better at problem-solving than others, and how emotional intelligence affects success in the workplace, among countless other topics. They also sometimes focus on how people of different ages organize their thoughts. It also deals with how information can be gathered from our environments into meaningful categories of thoughts. The French phrase "Cogito Ergo Sum", meaning "I think, therefore I am", is an influential philosophical ideology coined by Descartes (2006), which prioritizes the faculty of thinking of individual minds.

What is cognitive fitness:

Cognitive Fitness (CF) is an optimized mental state of ability that allows you to reason, remember, learn, plan, and adapt effectively. It is an ability to retain and recall information and a capacity to identify patterns and make judgments. Overall, it is a kind of fitness through which a person can respond quickly and logically. It is closely connected to "mental fitness", which indicates a person's mental state, which needs to be sound and calm.

Cognitive Ability (CA) is a person's mental capacity to process information, learn, reason, solve problems, and make decisions. This is also interrelated to the other two terms defined above. A person has to be prompt and rational in processing information to solve a problem by making the right and strategic decisions. In personal life, work, and family atmosphere, "reasoning, learning, processing information, getting the right clues, understanding inherent and apparent meaning to take and make wise decisions"—these are essential variables to be cognitively able. One should be coherent and logical to convey a message. To be cre-

ative, these factors are the most important.

When someone's brain works very well and is always alert to perform logical thought processes, it can be said that he/she is cognitively fit for activities like reasoning, remembering, learning, planning, and adapting. This term might be quite unknown to many of us. However, this is an important factor for our mental health. In our education sector, language pedagogy, and job sector as well, cognitive fitness is essential. Cognitive psychological development (PSD) is a condition of mental fitness in which one must be in a state of well-being and have a positive sense of how we feel, think, and act. Being mentally healthy means keeping one's brain and emotions in good shape. Aviv et al. (2025) focus on the "invisible mental labor" of household chores and other issues management, the excessive load of multiple roles, and the long-term cognitive stress of unpaid actions and benefits of paid work. The authors explicitly separated "planning" (cognitive labor) from "execution" (physical labor) across 30 household tasks. They found that while women do a disproportionate share of physical chores, their share of the invisible mental labor is even more unequal, directly predicting long-term cognitive stress, partner friction, depression, and maternal burnout (Aviv et al., 2025).

Cognitive well-being:

As a distinct variable, especially in scientific research, Psychological Well-being (PWB) is referred to as an individual's positive functioning to execute life purposes and self-realization. Researchers measure it to see how it is affected by external interventions, environmental shifts, or inputs (such as evaluating whether a meditative thought-oriented program or physical exercise improves a person's life satisfaction). (National Institute of Health-NIH).

According to the NIH, as an Independent Variable (Predictor): it is used to test how positive mental functioning influences other life outcomes (such as whether higher baseline well-being predicts lower cardiovascular risk or longer lifespan). Although it is a much more complicated factor than physical well-being. As a Mediating Variable: it acts as an explanatory bridge or pathway through which another factor exerts its effect (such as studying how religious beliefs and ritual involvement indirectly support better cognitive health by first boosting psychological well-being). Similarly, from a hedonistic point of view, Cooke et al. (2016) categorized three perspectives of psychological well-being. These three dimensions are basically interlinked with "life satisfaction", "exclusion of detrimental effects", and "the availability of positive influence". This threefold categorization is necessary to measure PWB. As a connective word, cognitive functioning skill is obtained through reaching one's capabilities, working optimally, or achieving one's exact essence (Cooke et al., 2016). The term "eudaimonic" perspective is used by Cooke et al. (2016) and he classifies six underlying components of cognitive well-being: identity, positive interpersonal relationships, independence, environmental mastery, sense of meaning, and self-development (Cooke et al., 2016). However, the eudaimonic theory concludes that happiness is derived from satisfying three fundamental emotional desires: freedom, intellectual ability, and connect-

edness. All these ingredients are very much relevant to my study materials.

In addition, to enhance cognitive fitness, some physical exercises, sustainable attitudes, remarkable activities, and lifestyle choices are responsible. These are mainly key factors for increasing or decreasing one's cognitive fitness. Besides, the surrounding environment, attitudes of known and unknown people, behavior of relatives, and relationships with others may affect one's fitness. This is related to psychological or mental fitness, as physical and mental development cannot be considered separately. From Krstić et al.'s (2025) study, it is established how women get exhausted emotionally and become less resilient than men in their employment. It is about how people intake information, how they recode and remember it, how they make decisions, how they transform their internal knowledge states, and how they translate these states into behavioral outputs (Lachman et al., 1979: p. 99). Not only do cognitive psychologists view their new science this way, but also revolutionists think that it is humanistic and that behaviorism is connected to it. From the ancient philosophy and psychology of Descartes, Nietzsche, and Plato, it is asserted that there is fear that the "lower" instincts or passions might take over the reign of reason within the individual in society. During the Enlightenment of the seventeenth and eighteenth centuries, Descartes expressed a similar fear, but he was more optimistic about the "ability of reason" to overcome the obstacles of passion and prejudices prevailing in society. Other thinkers, usually in the minority, indicated the opposite suspicion—that too many dimensions of human existence had been sacrificed to the infected form of reason that arose as a response to the earlier fear of the passions. Thus, reason and passion are included in the "computational model of mind" as part of cognitive psychology, as suggested in Nietzsche's book "Psychology and Nihilism".

## 2.2. Theoretical Background

Regarding female workers, there are different situations which affect their psychological development. Females sometimes tend to fall further behind in activating brain function. Because of being a minority group and due to gender bias, they might be treated differently. Yoder (2002), inspired by Kanter's (1977) Structural Framework, shows a critical flaw and argues that "token men do not experience the same negative outcomes as token women" in the work environment. Kanter establishes a viewpoint that when a minority group makes up less than 15% of a workforce, they automatically face negative dynamics such as performance pressure, social isolation, and role stereotyping. From the perspective of components of mental fitness (MF) or, in other terms, cognitive fitness (CF), neuroscience tries to prove that through training and a positive atmosphere, women can change their brains to become even more mentally strong, healthy, and fit. According to this view, MF is made up of four components: emotional, social, financial, and physical. Self-acceptance, self-esteem, and resilience help someone to manage her or his emotional faculty. Getting supportive networking, increasing social engagement, and taking part in social gathering activities may improve any person's

mental well-being. To reduce stress in someone's life, becoming economically independent by feeling in control of your finances can easily be a great influence. Lastly, reducing the development and risk of chronic sickness can improve the health of a person's brain. These core values affect a person's condition of health. Helping others to look after these faculties or areas of their lives will greatly enhance their work abilities, performance, attendance, and health. According to psychologist Bandura, people learn by observing the actions of others and the consequences of those actions. He proposed a very complex and critical behaviorism that asserts that environmental stimuli shape our behaviors and actions (Bandura, 1986). In his Social Cognitive Theory, knowledge, expectations, and attitudes are the key personal cognitive factors that determine human behavior. The component parts of social cognitive theory are social support, self-efficacy, personal beliefs, and environmental factors for outcome expectations. Here is his theoretical framework:

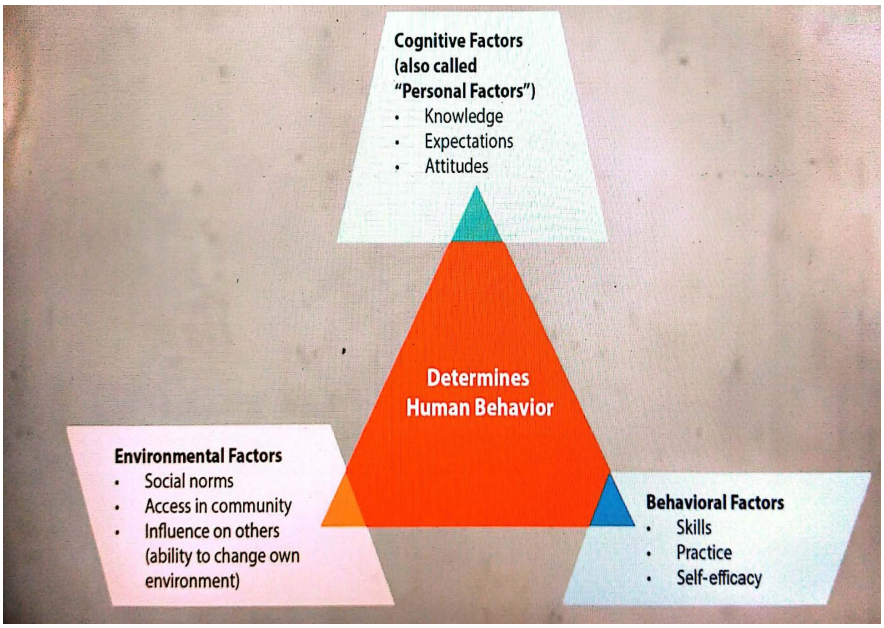



**Figure 1.** Framework modified from the Social Cognitive Theory by Albert Bandura (1986).

From the given **Figure 1**, it is seen that human behaviors are determined by some complex multi-dimensional factors working together. Here, each factor, for example, "Cognitive or personal", "behavioral", and "environmental", is crucial for the development of human attitudes. In the same way, a woman must deal with all these influential factors in her job environment. In this study, it will be investigated how a lack of skill, practice, or knowledge can have a greater impact on other sub-categories, for example, social norms, attitudes, and access in the community.

The study is directly associated with the "Psychometric Properties of the Ryff Scales of Psychological Well-Being (PWB)", from which the constructive ideas are developed and critically analyzed in the critical discussion section.

**Justification:**

There are many reasons why I have chosen this topic for my research. At present, in this competitive world, many consider cognitive skill an important issue. In this age of globalization, it is essential for every citizen to know the needs of cognitive abilities to enhance teaching qualities at the university level. Flavell (1977), in his Cognitive Psychological Development (CPD), discusses some conceptual growth with special emphasis on the psychological fitness of adults. Unlike him, Piaget (1964) talks about multiple crucial characteristics of the cognitive abilities of children's psyche, which led him to improve the educational learning strategies for centuries ahead. So, CPD is gradual process from childhood to adulthood.

As Bangladesh is a monolingual country, people need to be very cautious about mental development and skill development in order to speak with people from other countries to conduct business, to obtain diplomatic jobs, and for higher studies more effectively. From my experience, women were thought to have lagged behind in this respect earlier. But it is a matter of great regret that most of the teachers in our country are unable to teach effectively in different circumstances. As a result, the teaching environment and other criteria are not a concern for the administration. If physical fitness along with mental strength of women is ensured, it will refresh the brain to function properly, and they can easily take part in decision-making with proper justification. The aim of the paper is to develop the cognitive and communicative skills of the female teachers. Some new advantages can be provided for ensuring female teachers' quality teaching in Bangladesh at all levels. What are the possible reasons behind their failure to be as skilled as male teachers? Are they solely responsible for it? No doubt, those female teachers who are teaching at the school level are largely responsible for their miserable condition. This idea is not only applicable to the teachers of the tertiary level. This study is very significant because it is the first study on this matter. It signifies a lot in the context of Bangladeshi educational institutions.

## 2.3. Objectives of the Study

The immense importance and significance of cognitive skills as a global factor has become a subject of research all over the world. In Bangladesh, there is an acute obstacle in conducting teaching, especially as women teachers face many more constraints. Female university teachers at the tertiary level are now facing many problems and challenges while teaching in the classroom, and even the students are not satisfied with their performance. At other times, the performance is unsatisfactory. This research has the following objectives and purposes:

- To draw a real picture of female teachers' teaching conditions in the universities in Bangladesh, with a focus on the problems that teachers face while teaching in university;
- To show how they can help the students in the field of developing their mental health and cognitive skills, along with themselves;
- To identify the constraints in the way of developing a satisfactory level of cog-

nitive proficiency among women teachers;

- To provide a guideline for effective teaching in a comfortable environment by ensuring their psychological peace and stability;
- To identify some real causes of failure as well as to suggest recommendations to the authority concerned for the improvement of cognitive skills;
- To find out the reasons for the problems of the female teachers' learning and teaching barriers;
- To investigate the motivational quality of the teachers and the results of their activities;
- To put forward some suggestions and recommendations to overcome the problems or constraints in the way of conducting classes by female faculty at the tertiary level.

## 3. Research Methodology

### 3.1. Method of Research

Both qualitative and quantitative approaches (convergent mixed method) were used in this survey, which includes providing survey questionnaires for female teachers. The questionnaire determines the measurement through a binary and dichotomous scale (forced choice) of "yes, no, maybe". Also, the research was conducted by behavioral and mental health observation, for example, observing their performance, psychological status, social status, trauma management skills, etc. Only working mothers were asked questions about their mental health through online interviews. They gave a consent form and agreement paper. They gave permission to use their personal information from interview answers anonymously. The data collected would be confidential. Privacy should be maintained as per ethical guidelines of research work. Interviews were conducted according to the questions given to them. At the beginning of the questionnaire form, a detailed description about ethical consideration, privacy, and consent is described elaborately. The consent form is attached in the Appendix section. In the Appendix section, the approval procedure and consent form, including the Data Use Agreement (DUA) paper, are attached. Data were collected from Zoom interviews and recorded. Another process of data entry was found by Google Form information and from auto-created Google Form pie charts calculating percentages. Also, each of the pie chart percentages is described with critical discussion.

1) Question Piloting: Before exposing the instrument to an external group, the initial draft of the questionnaire is reviewed by subject matter experts and expert members from the Research IT cell. This initial phase tests face validity (structural alignment with study objectives) and content validity (comprehensiveness of the measurement domain). Then, a small group of participants as a representative pilot sample group who closely match the demographics and characteristics of the target study population was selected. After the small group was recruited, evaluation of the collected pilot responses was conducted for reliability analysis by deleting and reforming the ambiguous and problematic questions.

2) Questionnaire source: The American Psychological Association (APA) is an extremely validated instrument for psychological scales designed to track mental health metrics or personal traits. The questionnaire was modified and based on Spitzer et al. (2006) via the APA PsycTests Database, a dedicated repository for validated behavioral scales. Some of the questions were related to the mental and psychological condition of the respondents. For example, in interviews: "Over the last two weeks, how often have you been bothered by feeling demotivated, irritated, anxious, or on edge?"; "Do you think you are, on the whole, satisfied with yourself and why? If not, why not?" and some other questions were asked to female teachers.

3) Construct: The questions were constructed from some abstract ideas and formed from codes and indicators by those ideas. For example, some dimensions like "job satisfaction", financial support, "work-life balance", "family and spouse support", "work hours and workload", "satisfaction of monthly salary", "discrimination and other attitudes from colleagues and high authoritative figures" are valuable indicators that are converted into overall external factors or environmental factors. On the other hand, "mental satisfaction", "skills", "practice", and "efficacy" are core indicators of psychological and behavioral factors. These were further formatted by dichotomous binary classification.

### 3.2. Sample

Seven departments of a regional university were investigated through my research work. From each department, two female teachers were selected. The study was intended for working women who have one or two children and who live with their spouses. Because they are working mothers, live with their husbands, and to obtain the relevant information for my study, they were chosen and regarded as eligible participants. Not all faculty members are working mothers. Then, they were given the questionnaire. Only university female teachers participated in this work voluntarily. A total of 14 female teachers were engaged in this work. They were of different age groups and the majority of them (91%) are married. There are department Chairs, Associate Professors, and Lecturers as participants from the Department of English, Department of Statistics, Department of History, Department of Biochemistry and Molecular Biology, Department of Mathematics, Department of Psychology, and Department of Bangla. Most of the departments have fewer female faculty.

### 3.3. Research Instrument

Data analysis was based upon and adopted from a reliable and valid questionnaire designed by the author and then approved by experts of the Research Training Center, who are executive members of the IT and research cell of the university. The adopted questionnaire was further piloted with at least 7 female teachers from university-G (pseudonym). A small-scale preliminary test and survey were conducted to confirm the survey and interview protocol. Before finalizing the draft question set, techniques like cognitive interviewing or post-test debriefing were

used to determine if the instructions and questions were clear. Problematic and ambiguous questions were identified and modified to refine the research instrument. The mixed method of data collection is used to further ensure that the survey data are valid and reliable by taking follow-up interviews. Both online Zoom and face-to-face interviews with 14 participants (asked both open-ended and close-ended questions) were conducted, and observation of teachers' individual performance was judged by their assessment process, result report, and assessment time of publishing results. The data were collected from a comparatively large number of the population/main participants (14 teachers) and were analyzed using pie charts, figures, and tables to show percentages. Relevant and important issues emerging from the interviews and observations were analyzed, discussed, and presented descriptively.

### 3.4. Sources

Primary Sources:

From questionnaires, classroom performances, individual life events, and teachers' interviews, necessary information was obtained.

Secondary Sources:

From document studies of books, magazines, articles, and other resources, as well as references, secondary information was collected.

## 4. Findings from the Study

Findings from interviews:

The interview questions were about three key factors related to cognitive psychology. These are:

1) Whether cognitive and personal factors have any influential effects on their personal learning and career goals?

2) Do other social and environmental behaviors affect them in shaping their social behaviors?

3) To what extent do the skills and practices of female teachers have an impact on their teaching and learning?

To answer these questions, almost 80% of faculties commented that they are motivated and driven by psychological factors, for example, thoughts, knowledge, expectations, and attitudes, rather than other factors. One of the faculties said, "I am worried about family expectations; I generally cannot manage both sides, I can't even take rest due to my extra load of family and work responsibilities". Another explained, "I am tired of wanting to do everything perfectly". Some regret not getting any praise from family members because of not cooking, doing household chores, or taking care of babies. These factors are responsible for mental pressure.

The other factors also have a prominent effect on the learning and teaching of female faculties. Their ability to adapt in a new environment and adjust to social norms is easier when they receive enough support and care. However, if the new institution does not welcome her, she will face many psychological conflicts. In

many cases, unmarried men and women do not pay attention to or treat the married ones properly. That particular behavior is problematic and creates dissatisfaction in the working environment. A flexible and comfortable environment is a must to cope with a new setting. Gilligan (1982), as prominent American psychologist proposed an analyzed the moral dilemma of women from both "justice and care perspectives". To explain further, she outlined three-stage progression of moral development (pre-conventional, conventional, post conventional) where she progresses her mental construction through prioritizing herself by doing the best for her well-being, then thinking about others' betterment and sacrifices her desires and at the last stage do a balance between doing best for herself and caring for others because both are equally necessary.

There are some self-restrictive and self-control issues in the behaviors of women, which are gross attitudes used to deal with others who are rude in nature. Here, if someone gets angry and restless, she might suffer and be regarded as a bad one. One of the reasons for not behaving professionally is that women have to manage many multitasks and cannot avoid being arrogant. The thinking of a positive mind can be motivated to change behavior when women receive rewards and positive feedback from their work or family surroundings. The study also shows that, as a teacher, professional development is needed, and without all types of support, it is quite impossible to be physically and mentally healthy. One of the participants said, "I can develop my professional and mental fitness by nurturing my physical and mental issues daily. The problem is I hardly manage any time for self-care due to the overburden of familial and work pressure. But I believe if I get enough time for self-care and get support from people around me, I can ensure my mental fitness" (P1). Another participant explained, "Professional goals can be achieved through ensuring a stress-free family and workplace". This self-care and personal development fall under behavioral factors, but these are very much relevant to and dependent on environmental factors.

Environmental factors, for example, include the institution having room for women for regular exercise, as one mentioned, "smooth workplace" is essential for both learning and teaching. Others point out that "by getting support from my husband and surroundings", they can be more active in my profession and gain knowledge through a consistent atmosphere. Daily training and targeted exercises can help in this respect. To develop one's mental fitness, women faculty need to keep themselves healthy by having sound sleep, taking nutritious food, and getting enough rest in a peaceful environment. Ultimately, the environments of both family and institutional settings are equally important. One last comment was, "Female teachers should have a safe and sound stress-free environment for their mental and professional development" (P14).

About skill, practice, and knowledge, one participant mentions, "The continuous process of improving teachers' skill, knowledge, and instructional practice throughout the career is a complex process and a major challenge for female teachers". Teacher development is possible when "social, mental, environmental,

and financial as well as healthy well-being"—every sector is given enough importance. Teacher development will come easily if she/he can be fit both mentally and physically. "Teacher development means developing one's teaching and research abilities gradually so that s/he can create an impact on the teaching and learning process. To learn and teach professionally with comfort, sound mind and sound health are basic needs. Overall, 64.3% of the teachers in my study are very much interested in enhancing their cognitive fitness".

What is mental fitness (MF)/cognitive fitness (CF) according to their viewpoints:

From the interview, these elaborations are found. Below are their answers exactly as they said:

P1: "Mental fitness is the suitable condition of mind when the mind can work easily".

P2: "Mental fitness means mental stability"

P3: "I am okay".

P4: "Mental fitness is to be optimistic, rational, aware of one's own feelings, and desire"

P5: "Stress free"

P6: "Ability to think and act accordingly".

P7: "It is an emergency balance for a person's mental health".

P8: "ability to think freely and act accordingly"

P9: "**মানসিক স্বাস্থ্য ভালো থাকা যা যেকোনো কর্মে উদ্দীপনা জোগাবে।**" (Commented in Bangla language)

P10: "Ability to think clearly"

P11: "Maintaining a healthy, balanced mind so you can manage stress, emotions, relationships, and daily responsibilities effectively".

P12: "Capacity to respond to life's challenges with a positive mindset".

P13: "Mental fitness is having a stable mental state with logical reasoning ability and compassionate behavior".

P14: "Mental fitness is the state of psychological well-being, enabling effective daily functioning through emotional regulation, resilience, and cognitive health practices. It involves managing stress, maintaining physical health, and fostering supportive relationships".

*Note*: (*P1-P14*) *indicates all 14 participants. P = Participant.*

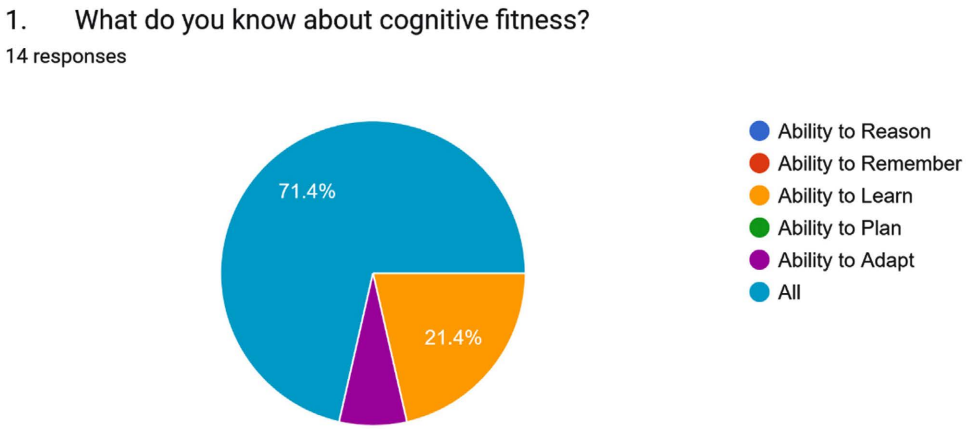
Most of them agree that cognitive skills are important for them. When the mind is fresh, people can do any work comfortably. One of the participants opined, "Good mental condition enhances our ability to think and to conduct any work. Because it will soothe one's mental health, which is very crucial for enhancing cognitive ability". They can accomplish their work quickly by being "less stressed". They will be able to think rationally and face all challenges positively. It is important for any profession because "fit mind can help you to adjust in any worse condition". It is important for enhancing both physical and mental strength. So, ignoring these psychological and cognitive factors can bring more perils to their

personal and professional lives.

### 4.1. Quantitative Findings from the Survey Questionnaire

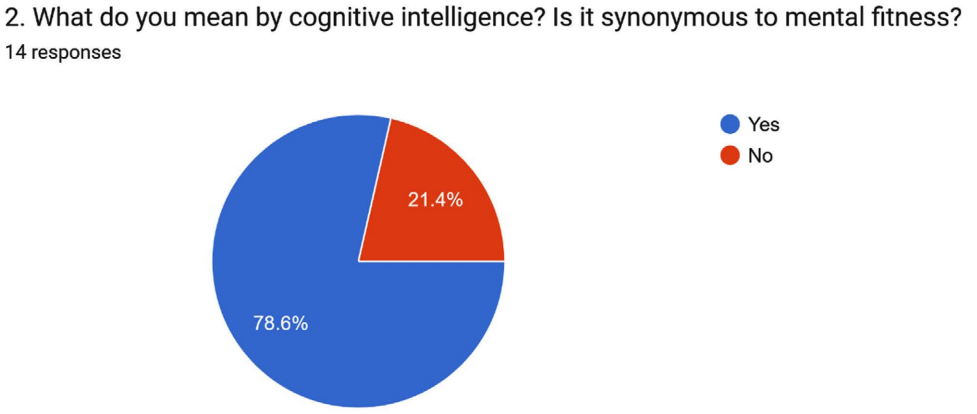
Statistical analysis of the data:

Regarding the definition and understanding of Cognitive Fitness (CF) and its factors, 14 female teachers were asked questions using an online Google form. The pie chart was created from their data, as shown below (Figure 2, Figure 3):




Note: Fourteen female teachers from different departments of University-G were asked about cognitive fitness. 71.4% marked all features. 21.4% said cognitive fitness is the "ability to learn". There were different age groups and very few were unmarried (9.1%).

Figure 2. Knowledge about cognitive fitness (CF).




Note: Cognitive intelligence is somewhat synonymous with mental fitness (MF). 78.6% said it is similar in meaning. The rest disagreed, and 21.4% said "No".

Figure 3. Mental Fitness (MF) is synonymous with cognitive intelligence.

Workload, stress, and pressure from family and institution: Affective factors are divided into three specific factors: Cognitive-psychological, Behavioral, and Environmental. We will analyze data about factors of different kinds and try to present a statistical overview of the findings:

**Table 1.** Psychological-cognitive factors responsible for female teachers' pressure and some effects on their learning and teaching.

| Question related to psychology | Yes (%) | No (%) | May be (%) |
|---|---|---|---|
| 1. Do you feel overloaded as a female faculty member? | 57.1 | 28.6 | 14.3 |
| 2. Do you want to take on extra pressure during overload courses? | 21.4 | 64.3 | 14.3 |
| 3. Do you have any pressure from your family? | 35.7 | 42.9 | 21.4 |
| 4. Do you get any help from your partner at home? | 42.9 | 21.4 | 35.7 |
| 5. Do you feel stressed? | 71.4 | 14.3 | 14.3 |
| 6. Are you depressed due to your workload? | 64.3 | 21.4 | 14.3 |
| 7. Do you have any mental crises? | 50 | 35.7 | 14.3 |
| 8. Do you feel demotivated and exhausted as a female faculty? | 57.1 | 28.6 | 14.3 |
| 9. Do you have any psychological problems? | 18.2 | 72.7 | 9.1 |
| 10. Do you need psychological support? | 62.5 | 37.5 | ---- |

Description of Cognitive factors: The words "pressure", "overload", "stress", and "workload" are related to psychological factors. So, this coding refers to cognitive personal psychological factors. Besides, "knowledge", "attitude", "need", and "expectations" are also forms of cognitive factors. Here, from this table, the expectation of getting support from spouse and others is also a cognitive demand.

**Table 2.** Some other factors of "self-efficacy", "practice", "preference", "exercise", and "skills development" are organized as behavioral factors.

| Question related to behavior | Yes (%) | No (%) | May be (%) |
|---|---|---|---|
| 1. Do you do exercises for your mental fitness? | 37.5 | 37.5 | 25 |
| 2. Do you want to quit the job and do only household chores? | ---- | 92.9 | 7.1 |
| 3. Do you prefer working from home to working outside? | 35.7 | 50 | 14.3 |
| 4. Do you need to consult a doctor for your mental health? | 9.1 | 72.7 | 18.2 |
| 5. Do you think men can take on more challenges and do everything faster than women? Do men have more skill? | 37.5 | 37.5 | 25 |
| 6. Do you have sufficient skill in teacher development? | 75 | 25 | ---- |
| 7. Do you want to teach, and are you mentally satisfied? | 85.7 | 7.1 | 7.2 |
| 8. Are female teachers interested in developing cognitive fitness? | 64.3 | 35.7 | ---- |
| 9. Do you have any problems finding words or remembering any issues? | 50 | 37.5 | 12.5 |

**Table 3.** Environmental factors working as impediments to women faculties' being fit cognitively.

| Questions relevant to environmental factors | Yes (%) | No (%) | May be (%) |
|---|---|---|---|
| 1. Do you get any help in taking care of children? | 42.9 | 21.4 | 35.7 |
| 2. Do you receive mental and physical support from your husband? | 27.3 | 27.3 | 45.4 |
| 3. Do you receive mental support from your family when you feel exhausted and when you need it? | 63.6 | 23.7 | 12.7 |
| 4. Do you receive help from your work environment? | 39 | 35.5 | 25.5 |

Some common factors like "support" from a spouse or husband, a "serene and comfortable environment", and facilities have a prominent impact on the learning and teaching of female figures.

### 4.2. Critical Discussion from Quantitative Survey

From the above statistical report, it is found that women experience stress and depression due to their extra workload, as found from Q5 and Q6 of Table 1. A large number of women respondents (71.4%) said "yes", indicating they are stressed out, and a majority of the participants (64.3%) said that they get depressed because of their workload (see Table 1). Again, half (50%) of the participants reported that they have a mental crisis when asked about it. 62.5% said that they need psychological support from family, spouse, and work environment. Because of the unequal division of household chores, women struggle more than men and feel burdened. They think men can take on challenges because they do not have to maintain two sectors at a time—family and work. In this respect, women cannot concentrate fully on their professional goals and career-oriented tasks. From a men vs women ratio of PhD or Doctorate Degree attainment rate, historically, in Bangladesh, within the total pool of PhD holders nationwide, men hold an overwhelming majority of roughly 75% to 80%, leaving women with a 20% to 25% share of the country's cumulative doctoral degrees. The big disparity shows the failure of women, but obviously because of some reasons still not investigated properly.

From Table 2, Q9 is about the ability and difficulty of remembering words when needed; 50% said they forget words or have difficulties remembering useful words. This implies problematic brain function because of multitasking. From the environmental factor level, 35.5% of women participants said that they do not get enough support from the work environment, so it becomes harder to adjust to the new atmosphere and cope with managerial and authoritative bodies. To fulfill the demands of the University authority, a female faculty member needs to be strongly proficient in accomplishing tasks as a committee secretary or as another member of a cultural program, debate competition, orientation program, conference, etc. She has to manage everything: taking classes, checking scripts, attending meetings, planning lesson objectives, taking labs, and so on.

From Table 3, all the core elements of environmental factors are shown with statistics. From an original investigation of Spitzer et al., seven Generalized Anxiety Disorder (GAD) scales were found. There was integration of trouble doing different chores because of anxiety, restlessness, worrying, being annoyed, and irritated—all these are focused. This happens because of a lot of mental and physical labor, pressure, and disorder that a woman worker can easily possess. From Yoder's (2002) study, she incorporates the idea that "a workplace culture saturated with heightened masculine norms makes the daily environment hostile, driving higher rates of stress and burnout" for women workers.

The intersection of domestic responsibilities and professional performance is

increasingly understood through the lens of cognitive and emotional depletion. While unequal divisions of physical household labor have been thoroughly documented, this recent research study highlights the profound psychological toll of "invisible mental labor"—the continuous anticipating, planning, and organizing of family and household needs. To continue the reassurance and rearrangement of traditional roles as wife, mother, and homemaker, "women face constant pressure to fit their modern, non-traditional roles as financial earners. These competing demands often deteriorate overall PWB". In addition, this type of high stress leads to cognitive dysfunction (Sharma & Sandhu, 2017). Aviv et al. (2025) isolated cognitive household labor as a distinct variable, demonstrating that women shoulder a disproportionately higher share of this cognitive management than men, which directly predicts heightened maternal burnout and chronic, long-term cognitive stress. This excessive mental load of balancing multiple roles simultaneously creates a structural disadvantage; the unpaid, non-stop mental tracking required at home actively drains the psychological resources needed to thrive in the professional sphere.

When these depleted psychological resources spill over into the employment sector, the consequences for women's career trajectories are severe. Drawing on conservation of resources theory, Krstić et al. (2025) established that this unequal domestic cognitive load functions as an invisible "third shift" for working women. From **Figure 4**, it is found that 75% of the total participants think that personal or cognitive factors are crucial for professional development. Because their cognitive reserves are systematically exhausted before they even enter the workplace, women experience significantly higher levels of emotional exhaustion and a corresponding reduction in career resilience compared to their male counterparts. Consequently, the invisible mental labor of household management does not merely impact well-being at home; it actively undermines women's capacity to adapt to workplace stressors, ultimately driving higher burnout and turnover intentions within their respective employment sectors.




Note: 75% of female teachers think that personal or cognitive factors are more crucial for professional development, which is also proven by statistical references.

**Figure 4.** A more crucial factor for professional development.

### 4.3. Some Suggestions to Overcome Challenges

According to Ryff's (1989) scale of PWB, self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth are key indicators of psychological well-being (PWB). Most of the female faculty members are very much concerned about their physical and psychological health. They recommend some crucial ways and suggest some techniques to maintain a sound mind. No matter what, a female needs to be very optimistic and mentally strong. A female has to be cognitively fit by being diligent and perseverant. Middleton (2022) rejects the idea that mental health and physical fitness are separate entities. According to his viewpoint, one should not think about "Am I the best in the world?", rather "Am I better than yesterday?"—is an influential core philosophy of his audiobook. In this way, women should not lose their optimism, self-belief and courage. Copeland and Harris (2000) in their self-help guide advised some exercises to some women who need psychological, emotional and physical support from abuses. The aim I to provide interactive and step-by step exercises that can be used independently, with a therapist, alongside supportive friends, or in a group setting. To recover trauma, establish empowerment, breaking self-destructive habits, these specialized exercises help individuals regain a sense of personal control, process difficult memories, and rebuild healthy interpersonal attachments. Female teachers have some family and job-oriented restrictions. They have to overcome them by managing time properly, taking enough nutritious food, and taking rest, taking help of a therapist if needed for mental stability. Taking care of children aged 1 to 5 is more challenging than doing other household chores. In response to the question—which job is the most difficult part as a professional—71.4% said, "taking care of children as a working mother". It is even more tiresome than keeping pace with the work environment. So, a reliable day care center and support from partners are two vital needs. There should be established counselling cells for their mental fitness and stability. Useful working memory, logical reasoning, and visual processing are essential parts of cognitive skills, which include how to pay attention to something in the environment, learning something innovative, making decisions, processing language, perceiving environmental issues, and solving critical problems by stimuli. Women teachers have less knowledge in computer software and hardware programming, and usages of functional keys. They should be trained for their skill enrichment. The support they should have from institutions and families is a matter of great concern. Besides, rewards, awards, and other special benefits should be launched for their motivation and encouragement. Self-recognition, feelings of respect, and self-dependency would be part of cognitive factors relevant to their teaching and learning development.

### 4.4. Contribution to Knowledge/Field of Study

This study will contribute significantly to the field of study by enriching knowledge about a multidimensional issue concerning the teaching sector. It will

help to create new ideas in policymaking by establishing a training center for female teachers. The working environment is a key factor in the field of employment and national development. This study will pave the way to provide rational thought about the facilities given to women. A kind of hint and suggestion to policymakers is given about some beneficial initiatives that can be taken by the government. Knowledge about mental health should not be neglected because it is related to physical health. Medical centers, day-care centers, common rooms, prayer rooms, and washrooms for women faculty members need to be ensured. This idea should be given importance in the field of national development. A counseling cell to reduce women workers' family trauma and anxiety should be considered the best solution in this regard. No development in teaching institutions can be possible if these factors are neglected in policymaking. This project will be useful to policymakers for understanding the emergency need from the perspectives of theoretical and experimental studies.

## 5. Conclusion

This mixed-methods study examines how personal, behavioral, family, and institutional factors may affect the teaching and learning experiences of female university teachers in Bangladesh. It draws on questionnaires and interviews with 14 participants and uses Social Cognitive Theory as its framework. The findings indicate that participants associate workload, family responsibilities, workplace support, and self-care with their perceived mental well-being and professional development. As working women, most of them have some troubles related to work and family. Basically, managing and adjusting to both responsibilities is a difficult task. It becomes more strenuous when other environmental factors do not work positively for them. The challenges are very high if they do not get help from their partner. Thus, psychologically, they feel extra-burdened and their cognitive faculties are hampered. The study explored some key cognitive issues of female workers, and how they can develop their cognitive fitness is suggested as well.

## Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this paper.

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