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**CHAPTER 3**

**RESEARCH  
METHODOLOGY**

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## CHAPTER 3

### RESEARCH METHODOLOGY

#### Chapter Overview

This chapter begins by discussing the areas of concern in the Indian healthcare segment and validates the problem for which a solution is sought through this research. It further proceeds to link problem statement to the research question, objectives and hypotheses. In five sections this chapter describes (a) Problem Statement and Research Question (b) Objectives of the study, (c) Conceptual Model and Hypotheses developed for the research (d) the Research Methodology, being the research design, research participants, scope of the study, sampling design, research instrument and statistical methods utilized for data analysis and (e) Structure of the Thesis.

#### SECTION A

### 3.1 Statement Of The Problem

Few prominent problems and key areas for awareness within the Indian healthcare environment were cited; which became the base for this research study. The research study proceeded within the backdrop of following issues:

#### 1) Shortage of Doctors in Indian Healthcare System

*Indian hospitals are facing two fold challenge, first providing quality healthcare services to increasing patient load in face of huge shortage of doctors and second retaining existing healthcare professionals in competitive market.*

Indian Healthcare is one of largest sectors, in terms of revenue and employment; growing at an annual rate of fourteen percent. Yet there are certain background realities and statistics against which this accomplishment of Indian healthcare system

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needs to be questioned.

In India, the patient population has been continually on rise; however this increase in patient population has not been coupled with equivalent rise in doctors' population. Along with number of countries, India too experiences huge shortages of healthcare professionals, including doctors, nurses and paramedics (PricewaterhouseCoopers, 'HealthCare in India' Emerging market report, 2007).

Shortage of doctors is evident from the fact that doctor patient ratio in India has been consistently lowest compared to world average ratios. As per World Health Organisation's (WHO) World Health Statistics & Health Report the doctor to patient ratio in India is 0.6:1000; that is six doctors per 10,000 people. This indicates that doctors' shortage is real and chronic in many Indian states and the number of qualified doctors in our country is not sufficient for growing requirements of Indian healthcare.

Less number of doctors means too many patients per doctor. This results in lack of support from colleagues, overload and long working hours for the existing doctors. Not only this, with severe shortage of nurses and paramedics; doctors are forced to do additional work where their expertise is not required. To worsen the situation; doctors in India are leaving the country for better paying jobs in hospitals abroad, forcing Indian hospitals to function in an under manned situation. This brain drain is likely to worsen in coming years before it gets any better.

Hence, not only recruitment but also retention of doctors has become a major challenge for most hospitals. Indian hospitals must acknowledge that the challenge posed by growth in demand for quality health care, together with reforms of health care delivery system, can only be met if hospitals look out for better ways to attract and encourage retention of doctors.

Can provision of work life balance support programs in hospital reform a doctor's job in to a more satisfactory one and help retain existing doctors? Can these programs improvise a doctor's job to a more rewarding and attractive career option for the youth of the country against the hefty paying jobs, in and out of India?

## 2) Increase in family demands

*Apart from over challenging work, demands from family life have also increased for doctors due to changing Indian lifestyle and demographics.*

The family, the basic unit of all societies, is adapting itself to new challenges and opportunities and changing its structure and activities to cope with new realities in India. There has been considerable change in Indian family composition and structure; with number of nuclear families, dual career couples, single parent families and dependent care responsibilities on rise. Today an employed individual has to shoulder additional and diverse responsibilities. However with limited time and energy at disposal; these responsibilities almost seem challenging enough and beyond reach of one's capacity.

Indian society has gone under a phase of transition over the last decade, due to which the traditional roles of male and female employees at work and family fronts have revolutionized. With more and more women entering the business world, maintaining work life balance is a challenge not only for women but also for their partners.

An Indian doctor is no exception to this change. Professional stressors faced by doctors are in addition to those faced outside the work life, at personal, family and community fronts. The perception of imbalance causes stress and pressure to accumulate within doctors, as either work and/or family demands go unfulfilled. These unfulfilled demands, potentially affect an individual's performance and ability to experience happiness in either role (Greenhaus and Beutell, 1985).

Organizations need to recognize and timely respond to these societal changes; because changing family structures imply changing characteristics of employees and their domestic circumstances (Agarwala, 2008).

Can hospital's work life balance support programs play prominent role in helping doctors to adapt to changing domestic and family structures and have a balanced professional and personal life?

### 3) Increasing Health and Wellbeing Concerns of Doctors

*A substantive portion of Indian doctors are facing health problems at some level. However warning signs of increasing health problems among doctors' fraternity has gone unheeded, by hospital management and surprisingly by doctors themselves.*

Healthcare has become a challenging and difficult profession to work in. Indian doctors' work in a very different and difficult context compared to western countries. Hospital work environment that can have severe consequences for their overall health and wellbeing. Over mounting pressure in multiple spheres of life leads to discontentment and lack of control over these life domains [43].

A survey by the Indian Medical Association's (IMA) Pune chapter in 2007 had revealed that on average Indian doctors are dying younger. Stress and sedentary lifestyle made their lives ten years shorter than that of the average person's lifespan. Similarly other studies in India have revealed presence of depression (Deshpande et al 2013) and significantly higher role stress arising out of conflict between organisational and non-organisational roles and resource inadequacy (Irfana, 2012).

Despite health problems, doctors are unable to take care of themselves for two main reasons. First, with the old stereotype 'doctors don't fall sick' looming large in India; doctors find difficult to admit to health problems. Second, under current scenario, doctors are facing huge time constraints and are forced to sacrifice their personal needs. It must be remembered that doctors' health problems, apart from affecting them professionally and personally; can also endanger patient care. Accordingly it is vital for hospitals too, that doctor's health concerns be aptly dealt with and the needed support be provided.

Can provision of work life balance support programs by hospitals allow doctors time to focus more on their own personal health and wellbeing? Can these programs relieve the time pressure and demands on doctors?

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### 3.2 Research Questions

A research question is a more precise expression of the problem statement of the study. Every research study is guided by certain research questions that originate from the identified problem statement. Against the earlier stated problems, it is paramount to have an understanding of WLB issues faced by doctors and identify factors determining their work life balance. Hence the specific research questions driving this investigation were:

- What factors affect Doctor's Work Life Balance within public and private hospitals settings of Nashik and Mumbai cities?
- Is Doctors' Work Life Balance a key driver of their Job Satisfaction in public and private hospitals of Nashik and Mumbai cities?

The research questions represent those areas of concern which indicate a research gap that this study has attempted to fill in.

## SECTION B

### 3.3 Objectives of the Study

A research question basically focuses on area and methodology of the study, while research objectives help to provide description of actions and steps that will be taken in order answer the research question.

The decision to undertake this study was made with the intent to achieve certain objectives which can be of significance to healthcare employees and the hospital management as well. The study aims to explore and add new perspectives to the concept of work life balance in relation to Indian healthcare segment. The objective was also to fill in the research gap in this area. Primarily the research aspires to establish and understand the existence and extent of work life balance problems faced

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by hospital doctors. Thus the research questions were broken into following research objectives:

1. To assess the Work Life Balance status of hospital doctors by developing a WLB Scale.
2. To understand the level of intrusion from professional and personal domains, with achievement of doctor's work life balance.
3. To understand the extent of support from professional and personal domains, towards attainment of doctor's work life balance.
4. To identify problem areas of a doctor's job and work environment that impacts their work life balance.
5. To study the nature of relationship between doctors' work life balance and two components of job satisfaction, cognitive and affective.
6. To study and compare work life balance issues of the doctors working in Nashik and Mumbai cities
7. To study and compare work life balance issues of doctors' working in public and private hospitals
8. To gain insight into perceptions and preferences of doctors for various supportive WLB programs and to give suggestions on actions to be undertaken by hospitals to assist doctors in dealing with work life demands

Summarizing, objectives of the study stand as:

- understand the present level of doctors' work life balance,
- identify the determinants of doctors' WLB
- examine nature of relationship between WLB on job satisfaction levels and
- study doctors' perceptions about need for WLB programs in hospitals

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### 3.4 Conceptual Model for the Study

#### **Theoretical Framework:**

A theoretical framework helps researchers to identify research variables and further clarify relationships among the variables of the study.

Based on review of literature a framework, as shown in figure 3.1 was developed. Out of the various antecedents of WLB, the focus of this research study under the field of HRM was more on professional factors that is job and hospital work environment variables.

The framework depicts intermediate linkages and path from antecedents of WLB to retention outcome. The very nature and characteristics of a doctor's job puts demand and pressure on their time and resources. Thus whether doctors are able to achieve WLB amidst these multiple demands would further depend on whether hospitals have adopted WLB programs or not. In case doctors receive support from their hospitals, it would help develop positive attitude towards the job and hospitals. This would foster a feeling of overall satisfaction with the job and hospital and function as a retention driver.



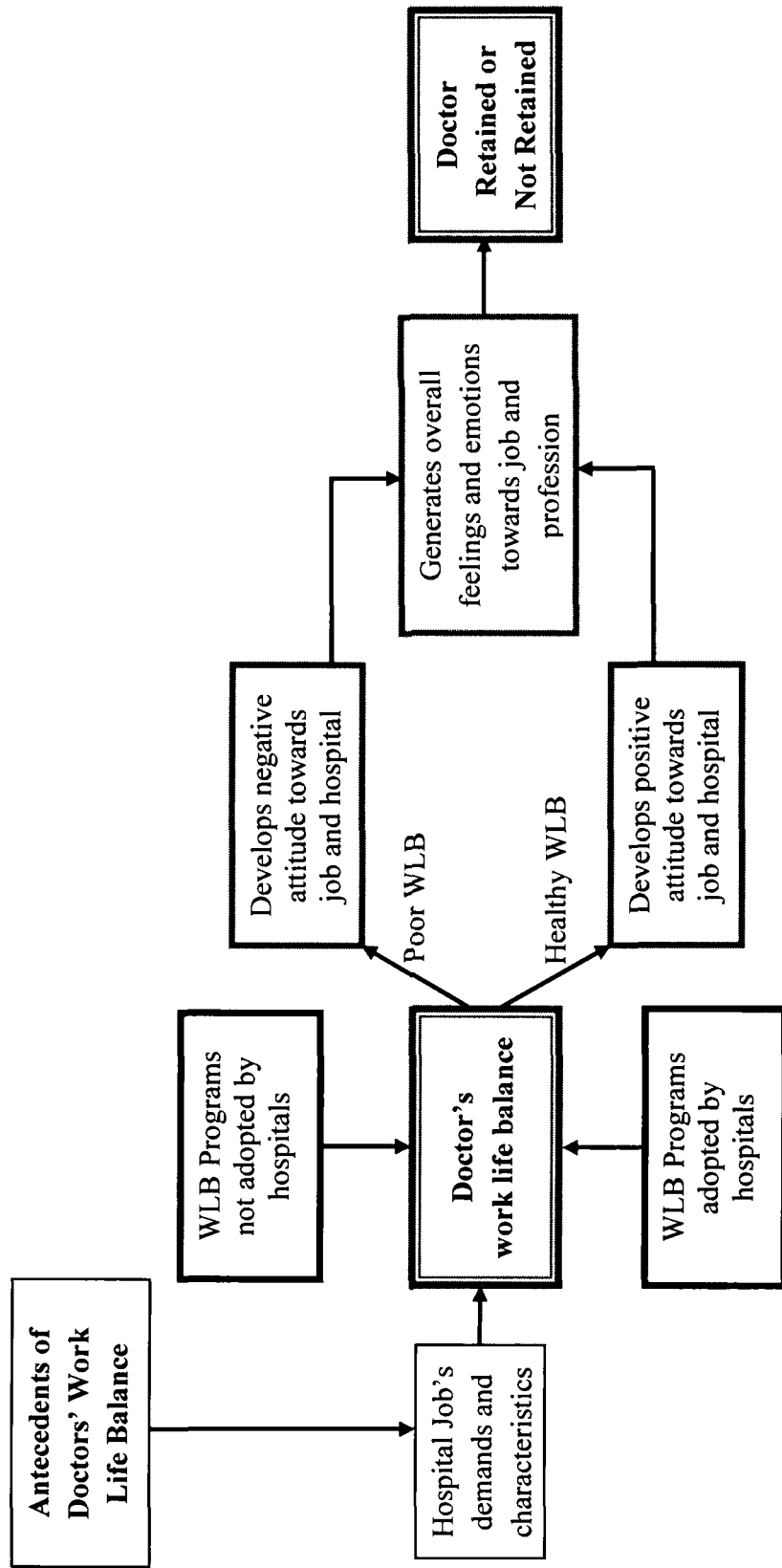
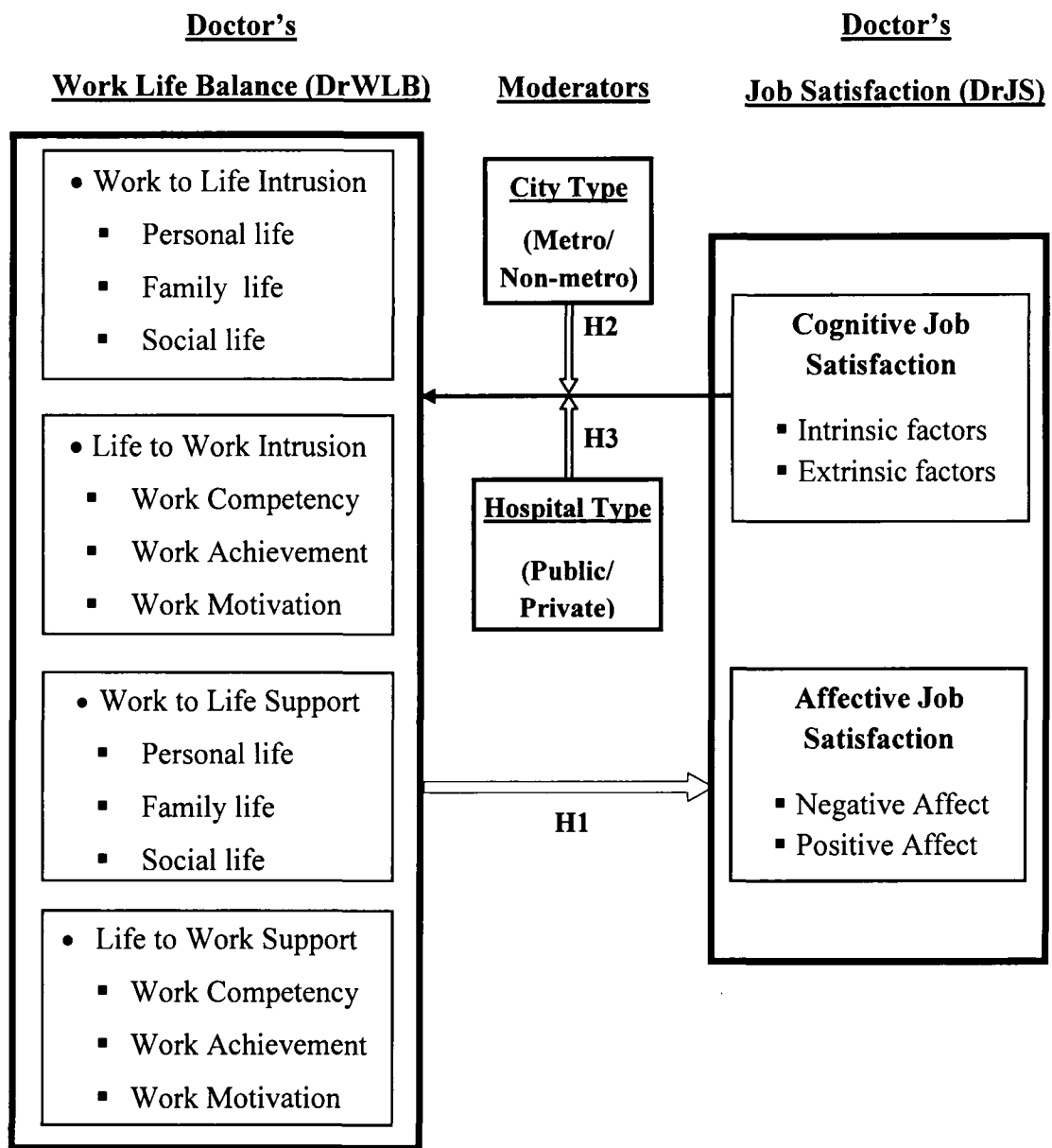


Figure 3.1: Theoretical Framework showing the pathway from 'Antecedents of WLB' to 'Retention of Doctors'

A conceptual model to guide the research study was developed as shown in figure 3.2.



**Figure 3.2: Conceptual Model for Doctor's Work Life Balance and Job Satisfaction**

The major hypotheses H1 (correlation between DrWLB and DrJS), H2 (moderation by City Type) and H3 (moderation by Hospital Type) have been illustrated in the model.

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The model represents theoretical and logical structure of relationships between variables. The variables and hypothesized relationship between these variables were proposed after review of literature on work life balance and job satisfaction concepts in general and specific to medical profession with Indian context.

The study considers four interrelated but distinct aspects of professional and personal lives, which lead to Doctor's Work Life Balance - work to life intrusion, life to work intrusion, work to life support and life to work support. Doctor's Job Satisfaction was examined on two discrete components, cognitive and affective.

Moderation effect of two variables City type (metropolitan or non-metropolitan) and Hospital type (public or private) on relationship between CJS and DrWLB were also tested.

### 3.5 Operational Definitions

In social science research, variables that impact the outcome of the study may or may not be measured directly due its abstract qualities. But measuring hypothesized construct involves quantification and requires transforming conceptual definition to operational definitions.

People have different opinions and views about concepts and as such whenever data is collected for research purpose, it is necessary to define the data. Else it can give inconsistent and erroneous information about the concept. This is ensured by providing operational definition of data to be collected.

The operational definition of the variable makes its abstract qualities concrete by providing a specific description of the variable. It describes the observable characteristics of a variable; the things that the researcher can observe or measure directly in the study. A concept that is defined operationally can be reduced to a set of rules to be preformed.



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The following section of operational definition, describes the variables and how they were measured within the context of this study.

**Work Life Balance:**

The words Work and Life in the term Work Life Balance implies the following meaning respectively

**Work (Professional life):** the time and energy spend by a doctor, on doing activities related to paid employment, either inside or outside the hospital.

**Life (Personal life):** the time and energy spend by a doctor, on any activities or relationships that are outside work; encompassing personal, family and social life of the doctor.

**Doctor's Work Life Balance (DrWLB):**

was defined as a multifaceted construct and measured as the overall balance achieved through the resultant effects of

**Intrusion**

- Work to Life Intrusion (WLI)
- Life to Work Intrusion (LWI)

**Support**

- Work to Life Support (WLS)
- Life to Work Support (LWS)

**Intrusion:** Responsibilities of one domain (professional or personal) demanding too much of a doctor's time and energy such that it intrudes with fulfillment of responsibilities of other domain.

**Support:** Responsibilities and demands of one domain (professional or personal) supporting a doctor's ability to fulfill responsibilities and demands of other domain.

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**Work to Life Intrusion (WLI):** the extent to which professional and work related duties and responsibilities (professional life) intrude with fulfillment of personal, family and social life demands. Measured as the summation of

- Work to Personal Life Intrusion (W\_PLI): negative effects on personal life
- Work to Family Life Intrusion (W\_FLI): negative effects on family life
- Work to Social Life Intrusion (W\_SLI): negative effects on social life

High intrusion from work domain could lead to deficit and limit time and energy available for personal domain

**Life to Work Intrusion (LWI):** the extent to which personal, family and social life duties and responsibilities (personal life) intrude with fulfillment of professional responsibilities. Measured as the summation of

- Life to Work Competency Intrusion (L\_WCI): negative effects on competency level at work
- Life to Work Achievement Intrusion (L\_WAI): negative effects on achievement level at work
- Life to Work Motivation Intrusion (L\_MCI): negative effects on motivation level at work

High intrusion would limit available time and energy for enhancing competency, achievement and motivation at work.

**Work to Life Support (WLS):** the extent to which job and hospital related characteristics supported fulfillment of personal, family and social life demands. Measured as the summation of

- Work to Personal Life Support (W\_PLS): positive effects on personal life
- Work to Family Life Support (W\_FLS): positive effects on family life
- Work to Social Life Support (W\_SLS): positive effects on social life

Better support would provide a sense of recognition, achievement and satisfaction on personal, family and social fronts.

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**Life to Work Support (LWS):** the extent to which personal, family and social life related characteristics supported fulfillment of professional life demands. Measured as the summation of

- Life to Work Competency Support (L\_WCI): positive effects on competency level at work
- Life to Work Achievement Support (L\_WAI): positive effects on achievement level at work
- Life to Work Motivation Support (L\_MCI): positive effects on motivation level at work

High support would help improve work competency, development and motivation levels.

### **Doctor's Job Satisfaction**

Job satisfaction was measured as a combined outcome of emotions and feelings attached to the job (affective satisfaction) as well as the satisfaction experienced with various job and hospital aspects (cognitive satisfaction). Measured as a resultant of

- Affective Job Satisfaction
- Cognitive Job Satisfaction

### **Affective Job Satisfaction (AJS)**

Doctors' emotions and feelings toward their job and profession in general, measured on two factors as:

- Positive Affect: positive feelings and emotions generated by the very nature of the job
- Negative Affect: negative feelings and emotions generated by the very nature of the job

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### **Cognitive Job Satisfaction (CJS)**

Doctors' satisfaction with various job factors and hospital work environment. Measured on two factors as:

- Intrinsic Factors: Satisfaction with job content factors, inherent to the job and hospital work environment, like nature of work, total workload, flexibility and autonomy.
- Extrinsic Factors: Satisfaction with job context factors, related to the job and hospital work environment, like relationship at work, social support at work, hospital policies

### **Hospital**

General and Specialty Hospitals of Nashik and Mumbai cities with bed size between 100-200 beds.

### **Public Hospital**

A hospital funded by public sector that comprises local, State and Central Governments, in addition to numerous autonomous public sector bodies.

### **Private Hospital**

A hospital owned by a 'for-profit' company and privately funded through payment for medical services by patients themselves, by insurers or directly by private owners or by foreign embassies.

### **Mumbai**

Mumbai metropolitan city: consisting of two distinct regions: Mumbai City district and Mumbai Suburban district; administered by the Brihanmumbai Municipal Corporation (BMC); with a population of 12,478,447 (*Population as per Census 2011*).

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**Nashik**

Nashik city: administered by the Nashik Municipal Corporation NMC; with a population of 1,486,973 (*Population as per Census 2011*).

**Doctors**

A doctor employed in 100 to 200 bedded public or private hospitals of Nashik and Mumbai cities, fulfilling following criteria

**Inclusion criteria**

- registered with Maharashtra Medical Council (MMC)
- holding at least MBBS degree.
- serving on permanent or consultative basis
- either a general practitioner, a specialist in a particular area or residential medical officer
- is engaged in patient care and hospital duties in different wards or units
- both, male and female doctors

**3.6) HYPOTHESES**

A hypothesis is a more specific statement and predictive statement; as such it is different from research question. The purpose of framing hypotheses is to make a prediction of expected results given the research problem and circumstances. A hypothesis needs to be tested statistically.

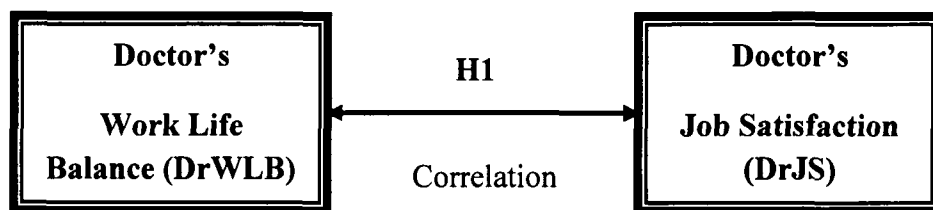
A hypothesis is a researcher's educated guess as to what should happen in a particular situation. Hypothesis provides a focus to research study and directs the investigation. It allows the researcher to test and confirm relationship between variables of the study. For this it is required to operational definitions of the variables.



**Hypothesis H1**

**Null Hypothesis H1<sub>0</sub>:** Work Life Balance will not be correlated with overall job satisfaction of doctors working in public and private hospitals of Nashik and Mumbai cities.

**Alternative Hypothesis H1<sub>1</sub>:** Work Life Balance will be correlated with overall job satisfaction of doctors working in public and private hospitals of Nashik and Mumbai cities.



**Figure 3.3: A model of Correlation between Doctor's Work Life Balance and Job Satisfaction**

An inability to balance work and life responsibilities has an impact on organisational performance in terms of increased turnover and absenteeism (non genuine sick absence), withdrawal behaviour [45], reduced productivity and decreased job satisfaction [44]. That is conversely, if organisations support employees' work life balance, it can positively help to minimize employees' dissatisfaction with their jobs (Eikhof, Warhust & Haunschild 2007; Osterman 1995) and also reduce the turnover rate (Burke, 2000).

A research conducted on WLB of doctors in Pakistan, a country with relatively similar culture as that of India; indicated that doctors who could better manage work life balance, had low burnout and experienced more job satisfaction, which resulted in low turnover (Malik et. al., 2010).

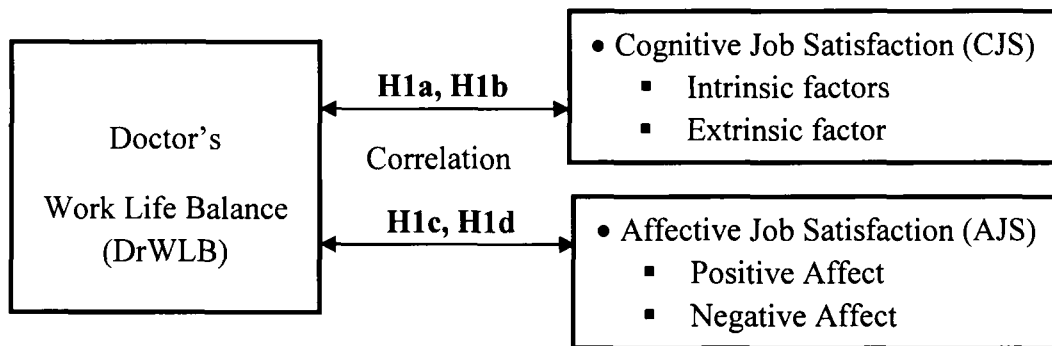
**Correlation Sub-Hypotheses H1a to H1d:**

Null: H1a<sub>0</sub>: Work life balance will be not be correlated with intrinsic job factors of doctors working in hospitals.

Alternative: H1a<sub>a</sub>: Work life balance will be positively correlated with intrinsic job factors of doctors working in hospitals.

Null: H1b<sub>0</sub>: Work life balance will be not be correlated with extrinsic job factors of doctors working in hospitals.

Alternative: H1b<sub>a</sub>: Work life balance will be positively correlated with extrinsic job factors of doctors working in hospitals.



**Figure 3.4: A model of Correlation between Doctor's Work Life Balance and Components of Job Satisfaction**

Null: H1c<sub>0</sub>: Work life balance will be not correlated with positive affect of doctors working in hospitals

Alternative: H1c<sub>a</sub>: Work life balance will be positively correlated with positive affect of doctors working in hospitals.

Null: H1d<sub>0</sub>: Work life balance will be not correlated with negative affect of doctors working in hospitals

Alternative: H1d<sub>a</sub>: Work life balance will be negatively correlated with negative affect of doctors working in hospitals.

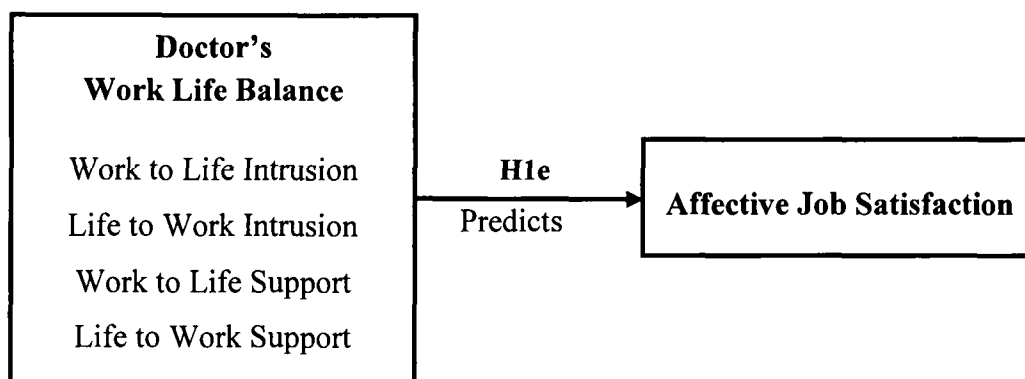
### Prediction Sub-Hypotheses H1e and H1f:

Most of the earlier researches on relationship between WLB and JS have considered WLB as a source variable predicting JS. However while studying this relationship; it is important to note how job satisfaction has been defined. This research distinctively studied job satisfaction on two components, cognitive and affective. Further the study proposed a model, wherein two predictor-criterion relationships were tested, CJS predicts DrWLB and DrWLB predicts AJS. Hence two hypotheses H1e and H1f were deduced.

#### H1e: DrWLB predicts AJS

Null: H1e<sub>0</sub>: Dimensions of Work to Life Balance (Work to Life Intrusion, Life to Work Intrusion, Work to Life Support and Life to Work Support) will not predict Affective Job Satisfaction of hospital doctors.

Alternative H1e<sub>a</sub>: Dimensions of Work to Life Balance (Work to Life Intrusion, Life to Work Intrusion, Work to Life Support and Life to Work Support) will predict Affective Job Satisfaction of hospital doctors.



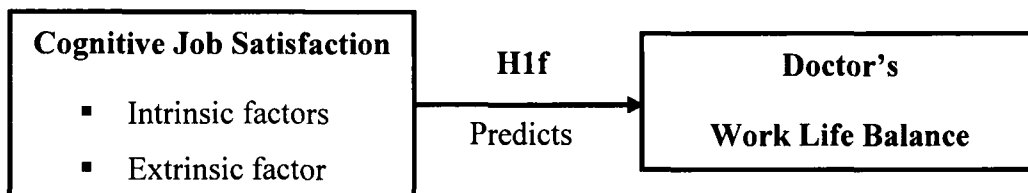
**Figure 3.5: A model of relationship between of Doctor's' Work to Life Balance and Affective Job Satisfaction**

**H1f: CJS predicts DrWLB**

Work life balance could not be expected to predict cognitive job satisfaction, that is having a balanced professional and personal life cannot make a doctor feel satisfied with various job factors like total hours of work, autonomy, job security, relationship with seniors and so. However the reverse could be true, that is satisfactory and supportive job factors would help doctors in achieve work life balance and hence hypothesis H1f.

Null: H1f<sub>0</sub>: Dimensions of Cognitive Job Satisfaction (Intrinsic and Extrinsic Factors) will not predict Work Life Balance of hospital doctors.

Alternative H1f<sub>a</sub>: Dimensions of Cognitive Job Satisfaction (Intrinsic and Extrinsic Factors) will predict Work Life Balance of hospital doctors.



**Figure 3.6: A model of relationship between Cognitive Job Satisfaction and Doctor's' Work to Life Balance**

**Moderation Hypotheses:**

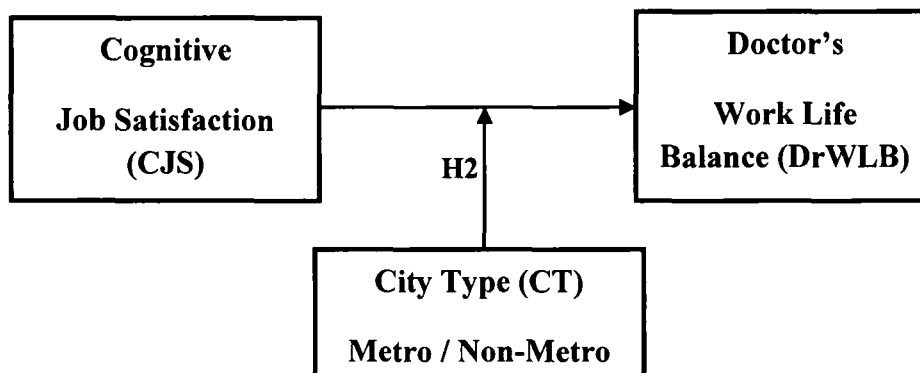
As stated by Baron (2004), a moderator is generally a qualitative or quantitative variable that affects the direction and/or strength of the relation between a predictor (independent) variable and a criterion (dependent) variable [10].

This research tests effects of two moderators on the relationship between Cognitive Job Satisfaction and Doctor's Work Life Balance hypotheses, first City Type (metropolitan or non-metropolitan) and second Hospital Type (public or private).

**Hypothesis H2**

**Null H2o:** City type will not moderate the relationship between cognitive job satisfaction and work life balance of doctors working in private and public hospitals

**Alternative H2a:** City type will moderate the relationship between cognitive job satisfaction and work life balance of doctors working in private and public hospitals



**Figure 3.7: A model of Moderating Effect of City Type on Relationship between Cognitive Job Satisfaction and Doctor's' Work to Life Balance**

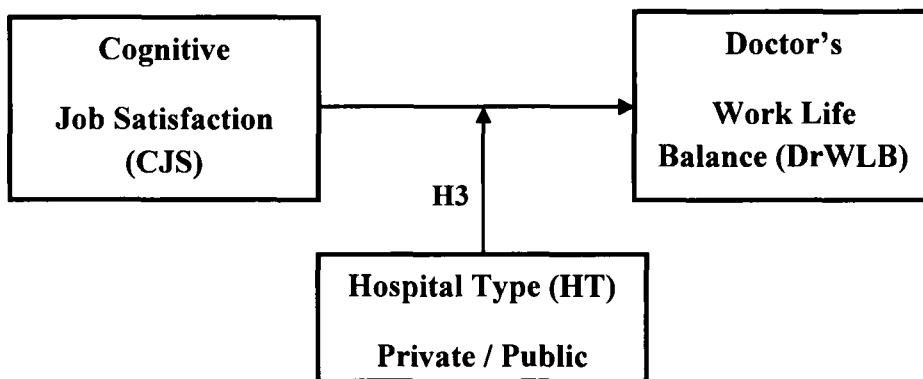
Usually in densely populated metropolitan cities, the work life balance condition of employees is more severe [115]. Similarly, the job of a hospital doctor in metropolitan cities would be considerably different from that in non-metropolitan cities, owing to factors like heavy patient load, workload, long working hours, extensive travel time, peculiar work culture and life style of these cities.

As such it was assumed that effect of Cognitive Job Satisfaction in generating Doctor's Work Life Balance will be moderated by City Type (metropolitan-Mumbai or non-metropolitan-Nashik) and hence hypothesis H2.

**Hypothesis H3**

Null H3o: Hospital Type will not moderate the relationship between cognitive job satisfaction and work life balance of doctors working in hospitals of Nashik and Mumbai cities.

Alternative H3a: Hospital Type will moderate the relationship between cognitive job satisfaction and work life balance of doctors working in hospitals of Nashik and Mumbai cities.



**Figure 3.8: A model of Moderating Effect of Hospital Type on Relationship between Cognitive Job Satisfaction and Doctor's' Work to Life Balance**

In India, the government run hospitals comparatively face huge shortage of doctors and nurses, which results in heavy work overload for existing doctors. In these hospitals doctors have to endure long working hours in an unhygienic and poor working condition. The rising dissatisfaction among public hospital doctors could be sensed by increasing number of doctors' strike being reported regularly.

Thus it was hypothesized that the effect of Cognitive Job Satisfaction in generating Doctor's Work Life Balance will be moderated by Hospital Type (public or private) and hence hypothesis H3.

Figure 3.8 below gives an overview of the linkage between research questions, research objectives and hypotheses.

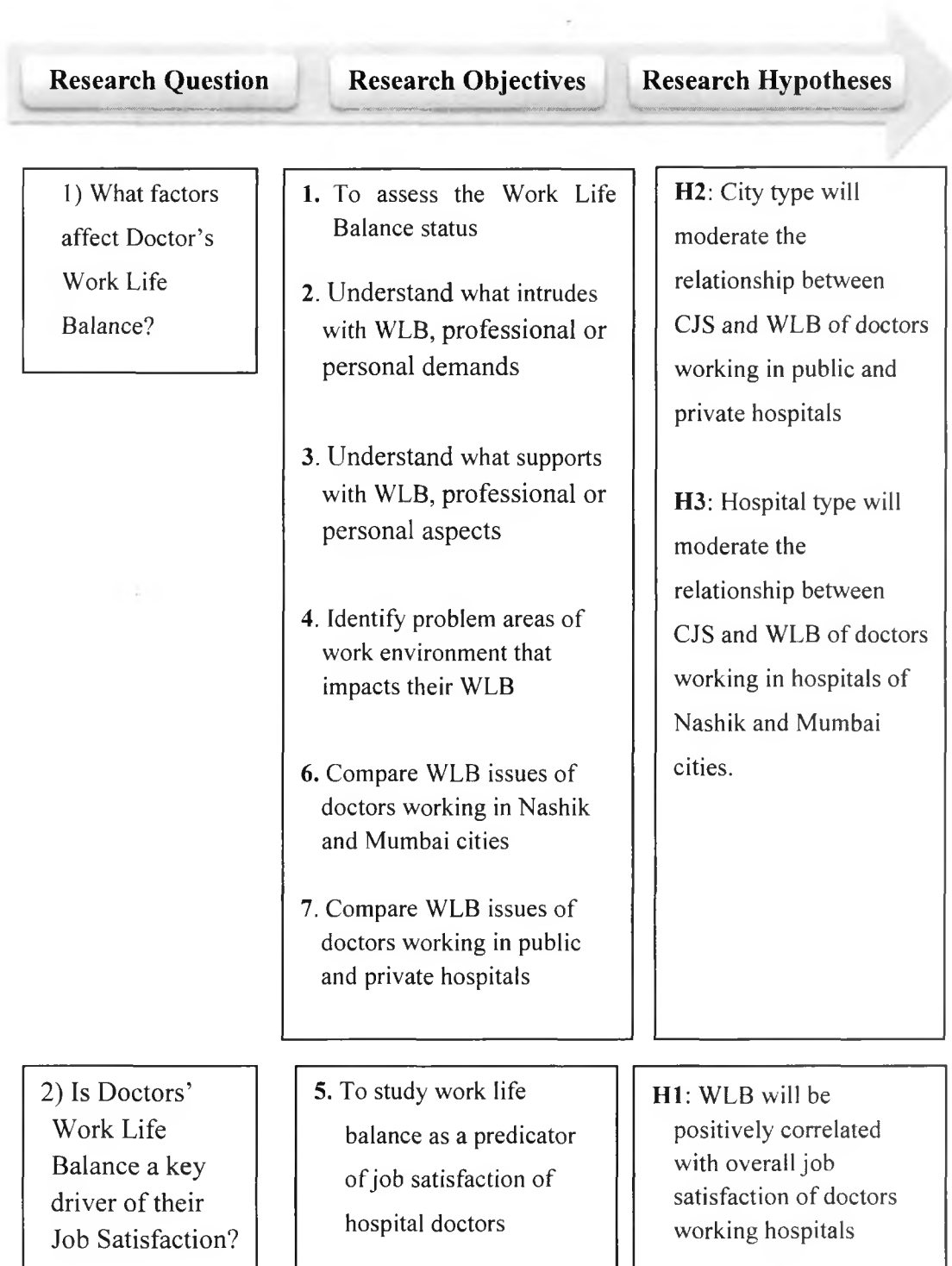


Figure 3.9: Linking Research Questions, Objectives and Hypotheses

## SECTION C

### 3.7 Research Methodology

This section on Research Methodology discusses the following topics Pilot Study, Research Design, Scope of the study, Sampling Design, Research Instruments and Methods of Analyses. A brief overview of the methodology used is given in table 3.1

**Table 3.1: Overview of Research Methodology of the Study**

Section	Description
3.7.1 <b>Pilot Study</b>	May 2011 to Dec 2011
3.7.2 <b>Research Design</b>	Descriptive Research design with Quantitative Approach
3.7.3 <b>Scope of the study</b>	<ul style="list-style-type: none"> <li>• Area Nashik and Mumbai cities</li> <li>• Participants Doctors working in Public and Private Hospitals</li> <li>• Variables DrWLB –WLI, LWI, WLS and LWS DrWLB_Fact DrJS – CJS and AJS</li> </ul>
3.7.4 <b>Sampling Design</b>	Sampling Technique: Multistage Sampling Sample Size: 502 Hospital Doctors
3.7.5 <b>Instruments</b>	Doctor's Work Life Balance Questionnaire (DrWLB) Determinants of Doctor's Work Life Balance Questionnaire (DrWLB_Fact) Doctor's Job Satisfaction Questionnaire (DrJS)
3.7.6 <b>Method of Analyses</b>	Normality test, Validity and Reliability analysis Factor analysis, Pearson's Correlation test and Multiple Regressions Analysis (Mediated and Moderated)



### 3.7.1) Pilot Study

#### **Need for Pilot Study:**

In social science research the term pilot study refers to feasibility studies which are small scale versions or trial runs, done in preparation for the major study (Polit and Beck, 2004). A pilot study can also be used to pre test a particular research instrument so as analyze data in the main study more efficiently.

#### **Objectives of Pilot Study:**

- 1) to develop a suitable research design and approach
- 2) developing and testing adequacy of research instrument (questionnaire) and to determine the reliability and validity of the self developed scales
- 3) to make needed alterations in the questionnaire,
- 4) establishing whether the sampling technique is effective
- 5) redesign parts of the study to overcome difficulties that the pilot study reveals
- 6) convincing the purpose and objective of the research to doctors

#### **Pilot Study Procedure**

A sample of 120 doctors (56 from Nashik and 64 from Mumbai) was selected for pilot study. To improve internal validity of the questionnaire, procedure followed was:

1. administer the questionnaire to pilot subjects in exactly the same way as it will be done in the main study
2. record the time taken to complete the questionnaire and decide whether it is reasonable
3. ask the subjects to identify ambiguities and difficult questions
4. assess whether each question gives an adequate range of responses
5. establish that replies can be interpreted in terms of the information that is needed for research

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- **Validity and Reliability of Questionnaire**

Research findings are to a large extent based on the quality of instrument. Validity and reliability are the key indicators of the quality of a research instrument. Without testing for validity and reliability it's not possible to draw credible conclusions from evaluation or make data based decisions. Therefore a research always begins by first testing for validity and reliability of the instrument.

**Validity:**

Face validity as commonly referred is the degree to which the instrument measures what it is supposed to measure. Thus, instruments wherein the purpose of test is apparent; clear and unambiguous to those taking it, will have high face validity.

Following steps were taken to ensure maximum validity of the research questionnaire:

- 1) Questionnaire worded in simple comprehensible English, words and phrases were used bearing in mind the respondents' profile. Logical sequence of questions was maintained with neutral and non leading words to achieve objectivity.
- 2) During pilot study, doctors were requested to evaluate and reword the questions
- 3) Content validity: To ensure content validity, experts in area of human resource, statistics and doctors working in hospitals were requested to judge the appearance, relevance and appropriateness of final questionnaire.

**Reliability:**

It is an instrument is a property not of the instrument but of the instrument when administered to a certain sample under certain conditions (Polit and Beck, 2004). The minimal internal consistency threshold as mentioned by Hair, et al., (2010) is 0.65 and all Cronbach's alpha values for this study were higher than 0.65. Further all Cronbach's alpha values except that for LWCI; were also above Pallant's (2007) recommended optimum value of 0.80. Thus, for this study the scales were considered to be relatively reliable measure of doctors work life balance and job satisfaction.

### 3.7.2) Research Design

- **Descriptive Research Design with Quantitative Approach**

The research design refers to the overall strategy chosen by the researcher to integrate the different components of the study in a logical way; so as answer their research question, address the research problem and achieve the aims of the study (Parahoo 2006). It outlines the approach chosen for collection, measurement and analysis of data.

This research utilized descriptive research design with quantitative approach for collecting data.

Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation. Descriptive research designs are appropriate under situations that require description of phenomenon (WLB for this study) or to discover associations among different variables (work life balance and job satisfaction in case of this study). In descriptive research the subject is being observed in a completely natural and unchanged environment.

A quantitative research attempts to fragment and delimit phenomena into measurable or common categories that can be applied to all of the subjects or wider and similar situations (Winter, 2000).

### 3.7.3) Scope of the Study

Scope of any research is defined by the objectives of the study. Scope of present research under Human Resource Management was focused on work life balance issues of doctors working in hospitals in Nashik and Mumbai cities. The scope in terms of time period, geographical area, participants and variables has been discussed below:



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### **Period of the Study**

- The pilot study was undertaken from May 2011 to Dec 2011.
- Main phase data collection: Feb 2012 to May 2013

### **Area of the Study**

- Nashik (non metropolitan) and Mumbai (metropolitan) cities

One of the empirical purposes of this research was to study and compare the differences in work life balance issues of doctors working in metropolitan and non metro smaller cities.

### **Why Mumbai and Nashik?**

Mumbai: The Indian Census Commission defines metropolitan city in terms of population, as a one possessing a population of more than 4 million, comprised in one or more districts and consisting of two or more municipalities. Mumbai the capital of Maharashtra is the largest metropolitan of India, generating five percent of India's Gross Domestic Product. The scenario of healthcare sector in Mumbai becomes evident from services offered by many private and public hospitals and the huge inflow of patients in Mumbai from all other parts of the country as well as from outside the country. Hence the demand for specialized and quality healthcare services has multiplied in Mumbai.

Nashik: Due to high competition and ever escalating real estate prices in big cities, most healthcare providers and hospitals are now diverting their expansion plans in smaller Tier II and Tier III cities. Nashik is one of the fastest growing cities of India. The city's appealing potential market has attracted substantial number of private hospitals recently. Specialty health care services are increasing in Nashik city. Also as healthcare facilities and services in Mumbai and Pune become highly expensive and unaffordable for patients; much of the patient load is being diverted to Nashik.

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Overall, the increasing patient population will place more demands on healthcare services in both these cities, in coming times. To confront this challenge, hospitals in these cities must be backed up by strong, dedicated and retained healthcare professionals. Although these cities belong to same Maharashtra State, the living style, culture, cost of living, peoples' perceptions, attitudes, expectations and work habits are distinct. It was thus expected that both these cities will provide sufficient, varied and relevant data needed for the research study.

### **Participants**

- **Doctors working in Public and Private Hospitals**

Doctors working in 100 to 200 bedded public or private hospitals of Nashik and Mumbai cities. These participants formed the target group, to which this research proposed to make generalizations.

### **Why Doctors?**

Doctors are the source of value creation, as they are responsible for creating an environment in which healthcare is practiced and patient care is delivered in hospitals. Lost critical talent becomes increasingly difficult to replace as shortage of doctors is on rise, all over the world. Despite this, doctors' fraternity and their problems have been largely ignored over the years in India.

Doctors' work life balance and job satisfaction is important because it directly affects quality of patient care. Hence this study aimed to investigate certain issues related to doctors' work life balance and job satisfaction, two concepts relevant to doctors as well as hospitals.

**Variables of the Study**

A summary of all the variables included in the research study is briefed in Table 3.2 below.

**Table 3.2: List of all Variables of the Study**

<b>Construct</b>	<b>Variable</b>	<b>Indicators</b>
<b>Doctor's Work Life Balance Status</b>	<b>DrWLB</b>	<b>WLI, LWI, WLS and LWS</b>
Work to Life Intrusion	WLI	Work to Personal Life Intrusion (W_PLI) Work to Family Life Intrusion (W_FLI) Work to Social Life Intrusion (W_SLI)
Life to Work Intrusion	LWI	Life to Work Competency Intrusion (L_WCI) Life to Work Achievement Intrusion (L_WAI) Life to Work Motivation Intrusion (L_MCI)
Work to Life Support	WLS	Work to Personal Life Support (W_PLS) Work to Family Life Support (W_FLS) Work to Social Life Support (W_SLS)
Life to Work Support	LWS	Life to Work Competency Support (L_WCS) Life to Work Achievement Intrusion (L_WAS) Life to Work Motivation Support (L_MCS)
<b>Factors of Doctor's WLB</b>	<b>DrWLB_Fact</b>	Profession Related, Patient Issues, Country Specific and Personal Matters
- related to doctor's job	-	Profession Related
- related to patients	-	Patient Issues
- related to country	-	Country Specific
- related to personal life	-	Personal Matters
<b>Doctor's Job Satisfaction</b>	<b>DrJS</b>	<b>AJS and CJS</b>
Affective Job Satisfaction	AJS	Positive Affect (Pos_Aff) and Negative Affect (Neg_Aff)
Cognitive Job Satisfaction	CJS	Intrinsic Factors (Int_Fact) and Negative Affect (Ext_Fact)

### 3.7.4) Sampling Design

Sampling is the process by which researchers select a proportion of the target population, as the study population, to represent the entire unit. It is more practical and economical to work with samples rather than with large target populations (Polit & Beck 2010).

- **Population and Sample**

Target Population: All doctors working in 100 to 200 bedded hospitals of Nashik and Mumbai cities

Sample: Accessible doctors from above population willing to participate in survey. Hospitals were identified and chosen with help of Medical Service Representative paying visits to these hospitals.

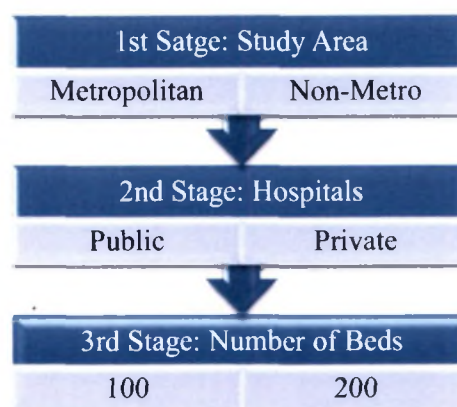
- **Sampling Technique: Multistage Sampling**

Multistage sampling was adopted to cover the required sample size from chosen area of study. Multistage sampling refers to sampling plans where the sampling is carried out in stages using smaller and smaller sampling units at each stage. This study went through following three stages of selection before finally selecting sample elements from hospitals.

1<sup>st</sup> stage: Area under study divided as Metropolitan (Mumbai) and Non-Metro (Nashik) cities

2<sup>nd</sup> stage: Hospitals in selected cities were then divided as public and private hospitals.

3<sup>rd</sup> stage: Hospitals classified based on the bed size, only 100 to 200 bedded hospitals selected.



**Figure 3.10: Criteria for Selection of Sample through Multistage Sampling**

- **Sampling Procedure**

- i) **Selection of Hospitals**

The total area under study was first divided as metropolitan (Mumbai) and non-metropolitan (Nashik) city. Next, with the assistance of medical service representatives 100 to 200 bedded public and private approachable hospitals were identified. Clinics were excluded from selection. The number of hospitals was so chosen considering required sample size of doctors from each city and the general response rate in social research.

- ii) **Selection of Participants**

The objective of this research was to make a comparative study of work life balance issues of doctors working in public and private hospitals of metropolitan and non-metro cities. Thus an attempt was made to cover equal number of participants from Nashik Public, Nashik Private, Mumbai Public and Mumbai Private groups. Accordingly, all doctors of the selected hospitals were invited to participate in this study, to cover the required sample size.



Questionnaires were distributed to every doctor available on duty during various visits to these select hospitals in Mumbai and Nashik. Maximum doctors willing to participate in survey were approached during the visit; the purpose and objectives of the study were discussed with them and the questionnaire was explained. Participants' concern about confidentiality and anonymity were also addressed. Doctors who had time filled in the questionnaire straight away, else the questionnaires were left with doctors. A follow up with them was maintained and regular reminders requesting to fill up the questionnaire were given.

- **Sample Size:**

A sample is usually selected in research when it is not feasible to study the entire population due to multiple constraints. Based on this sample, inferences about the population are made. A sample size represents the number of observations made or elements studied from the population.

**Total Sample = 502 Hospital Doctors**

**Table 3.3: Sample Size Covered from Public and Private Hospitals of Nashik and Mumbai cities**

<b>Hospital-wise</b>	<b>Questionnaires distributed</b>	<b>Questionnaires received</b>
Public hospital (Nashik and Mumbai)	1020	262
Private hospital (Nashik and Mumbai)	990	240
<b>City-wise</b>		
Nashik city (Public and Private)	610	248
Mumbai city (Public and Private)	1400	254

### 3.7.5) Research Instrument

Measuring a construct requires that the construct under study be quantified. A research instrument, questionnaire in case of this study; helps in measuring and quantifying the concept under study. The questionnaire consisted of three main scales, DrWLB, DrWLB\_Fact and DrJS. The description of these scales has been given below:

#### 3.7.5.1) Instrument development

Based on guidelines mentioned by Burton (2011), DrWLB, DrWLB\_Fact and DrJS scales suitable to Indian environment were developed. Steps followed were:

- 1) defining constructs and determining domain content of each construct
- 2) generating items and statements in the questionnaire based on the information to be sought and considering the nature of data analysis. Most of the items were closed ended; but however to allow participants to express their views or give additional information few open ended questions were also included
- 3) Pilot testing of the questionnaire

#### 3.7.5.2) Description of the Scales

##### 1) Work Life Balance Scale:

The Work Life Balance Scale was developed and refined to link it closely to the specifics of doctors' working patterns. All the questions were framed bearing in mind the professional nature of doctor's job in hospital. Efforts were taken to word the statements as clearly and unambiguously as possible. The Work Life Balance Scale had two sub scales as

- a) **DrWLB scale:** To measure present WLB status of doctors
- b) **DrWLB\_Fact scale:** To identify determinants (factors) of doctors WLB

All the statements were measured on seven point Likert scale comprising of Completely Agree=7, Mostly Agree=6, Somewhat Agree=5, Neutral=4, Somewhat Disagree=3, Mostly Disagree=2 and Completely Disagree=1.

**a) DrWLB Scale:**

To judge the status of doctors' WLB, the score on DrWLB scale was categorized into four levels as 'very low', 'below average', 'above average' and 'very high'.

**Table 3.4: Scoring Pattern on Doctors' WLB (DrWLB) Sub Scale**

Percentage Score	Score on the Subscales				
	WLI	LWI	WLS	LWS	DrWLB
Very Low (1 to 25%)	1 - 16	1 - 16	1 - 11	1 - 11	1 - 53
Below Average (26 to 50 %)	17 - 32	17 - 32	12 -21	12 -21	54 – 105
Above Average (51 to 75%)	33 - 47	33 - 47	22 - 32	22 - 32	106 – 158
Very High (75 to 100%)	48 - 63	48 - 63	33 - 42	33 - 42	159 - 210

WLI and LWI scores were reversed before adding them to compute DrWLB, as higher scores on these two indicate high intrusion which ultimately reduces overall WLB. Thus four scores, WLI (reversed), LWI (reversed), WLS and LWS were totaled to arrive at the final score on DrWLB; a score that reflects status of a doctor's work life balance.

Higher score on a scale reflects high levels of that particular dimension; that is high score on WLI indicates high level of work to life intrusion while high scores on WLS indicates high levels of work to life support. For healthier work life balance DrWLB, WLI and LWI scores need to be low while WLS and LWS need to be high.

DrWLB scores below 50% were considered as indication of poor WLB; while that between 50% to 75% meant slightly better WLB but struggling with multiple challenges.

**b) DrWLB\_Fact scale - Determinants of WLB:**

DrWLB\_Fact subscale had 25 items covering four factors, Professional Factors, Patient Issues, Country Specific and Personal Matters; factors that influenced and determined doctors' work life balance.

**Table 3.5: Scoring Pattern on Factors of Doctors' WLB (DrWLB\_Fact)**

Sub Scale	Score on the subscales			
	Professional Factors	Patient Issues	Country specific	Personal Matters
Not a Problem (1 to 25%)	1-17	1-8	1-8	1-8
Could be a Problem (26 to 50 %)	18-35	9-17	9-17	9-17
Problematic (51 to 75 %)	36-53	18-26	18-26	18-26
High Concern (75 to 100%)	54-70	27-35	27-35	27-35

The overall scores were classified into four 'Not a Problem' (1 to 25%), 'Could be a Problem' (26 to 50%), 'Problematic' (51 to 75%) and 'High Concern' (75 to 100%). Completely disagreeing with a statement indicates that the item does not act as a barrier towards achieving work life balance.

**2) Doctor's Job Satisfaction Scale (DrJS)**

Doctor's Job Satisfaction (DrJS) was measured on two subscales AJS-Affective Job Satisfaction (Positive and Negative) and CJS-Cognitive Job Satisfaction (Intrinsic and Extrinsic).

All the statements were measured on seven point Likert scale comprising of Completely Satisfied=7, Mostly Satisfied=6, Somewhat Satisfied=5, Neutral=4, Somewhat Dissatisfied =3, Mostly Dissatisfied =2 and Completely Dissatisfied =1.

Scores on DrJS scale were categorized into four as low, below average, above average and high as shown in Table 3.6 below.

**Table 3.6: Scoring Pattern on Doctors' Job Satisfaction (DrJS) Sub Scale**

Percentage Score	Cognitive JS		Affective JS		DrJS
	Int_Fact	Ext_Fact	Pos_Aff	Neg_Aff	
Low (1 to 25%)	1-9	1-9	1-9	1-9	1 - 35
Below Average (26 to 50 %)	10-18	10-18	10-18	10-18	36 – 70
Above Average (51 to 75 %)	19-26	19-26	19-26	19-26	71 – 105
High (75 to 100%)	27-35	27-35	27-35	27-35	106 - 140

Higher scores on DrJS scale reflect high levels of job satisfaction. Scores on DrJS would be high provided scores CJS and AJS were high.

- High CJS indicates greater satisfaction with intrinsic (Int\_Fact) and extrinsic (Ext\_Fact) job factors.
- High AJS indicates higher positive (Pos\_Aff) and lower negative (Neg\_Aff) feelings towards the job.

### 3.7.6) Method Of Analyses

#### Processing Data for Analysis

Before analysis of data, it needs to be processed and prepared to ensure that data is amenable for analysis. The following process was adopted to ensure the same:

- 1) Editing: The raw data collected through the questionnaire were examined to detect errors and omissions; obvious errors were corrected.
- 2) Coding: for efficient analysis, the responses were coded as per decision taken during finalization of the questionnaire.
- 3) Tabulation: Research data were summarized and stored in tabular format in SPSS. Scale items that were negatively scored were reverse coded.

The following statistical tests were carried out for analyzing the data and testing the hypotheses

- 1) Validity and Reliability analysis to achieve first objective (develop a WLB Scale)
- 2) Normality test to check whether the data fits normal distribution to permit use of statistical tests - skewness and kurtosis statistics and observation of histograms
- 3) Descriptive statistics and percentage analysis to achieve
  - second objective (understand which domain intrudes more with achievement of doctor's work life balance, professional or personal)
  - third objective (understand which domain supports more the attainment of doctor's work life balance, professional or personal)
  - eighth objective (to know doctors' preferences for WLB Programs in hospitals)
- 4) Factor analysis: to achieve
  - fourth objective (to identify problem areas of a doctor's job and work environment that impacts their WLB)

### **Statistical Test for Hypotheses testing**

1. Pearson's Correlation test:
  - to achieve fifth objective: (study the nature of relationship between doctors' work life balance and two components of job satisfaction, cognitive and affective)
  - to test hypothesis H1 and its related sub-hypotheses H1a to H1d.

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2. Multiple regressions: To study predictor criterion relationship between doctors' work life balance and two components of job satisfaction, cognitive and affective
    - to test hypothesis H1e and H1f
  3. Moderated regressions analysis: to achieve
    - Sixth objective (study and compare work life balance issues of the doctors working in Nashik and Mumbai cities) and test hypothesis H2
    - seventh objective (study and compare work life balance issues of doctors' working in public and private hospitals) and test hypothesis H3

### **3.8 Ethical Considerations**

The research study adhered to the confidentiality norms of the participating hospitals and doctors. Being a social research, this study was entirely descriptive in nature and did not involve any interventions or actions on part of the researcher. The participants were given assurance through a declaration attached to the questionnaire; that their identity will not be disclosed to anyone. The declaration also explained the need and purpose of the study. Further assurance was given that no one else, especially in hospitals; will be able to view their responses and that the collected information will be used only for PhD research work. The doctors had full right to chose not to participate in the study.

## **SECTION D**

### **3.9 Structure of the Thesis**

The analytical part of this thesis explores doctors' experiences and gives an understanding of its influence within hospital context. The findings are practically translated into implications and recommendations for hospitals to develop doctor centric work life balance programs in future.

The thesis has been structured in seven chapters; each begins with an overview of the chapter and ends with conclusion of discussion. A brief description of content of each chapter is given below:

**Chapter 1: Introduction**

This chapter was written basically with the view to build a background of the research study undertaken. It contains a brief discussion of the development of work life balance concept, its trend from 'work to family' to 'work to life' balance. The chapter further discusses the relevance and need of WLB for doctors working in public and private hospitals. The Indian healthcare current scenario and its environment that poses multiple challenges to doctors are described. The chapter concludes by defending the rationale for choosing this topic for doctoral research under human resource management.

**Chapter 2: Literature Review**

Chapter two is a comprehensive review of literature related to work life balance and job satisfaction, general and specific to healthcare employees. It includes description of origin, meaning, definitions, theory and models of work life balance. Work to life conflict and work to life enrichment factors affecting WLB have been focused upon. The chapter also discusses theory related to job satisfaction and deliberates upon its correlation with WLB. The chapter ends with highlighting the gaps identified through literature review, which this research aimed to fill in.

**Chapter 3: Research Methodology**

The chapter of research methodology is a brief account of methodology adopted for the study and brings to forefront the problem areas, research questions and objectives derived thereof. It outlines theoretical framework, conceptual model and operational definitions developed. Doctors' Work Life Balance status and factors responsible for generating that status were assessed separately. Unlike



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many other studies that focus only cognitive dimension; this study evaluated job satisfaction on both components, affective and cognitive. Further the chapter describes hypotheses about work life balance and its correlation with job satisfaction and stresses upon mediator role of WLB between two components of job satisfaction. Methodology related to pilot study, research questionnaire, scope of the study, sampling technique and ethical consideration are described. In the end the chapter discusses statistical methods used to analyze data and test hypotheses.

#### **Chapter 4: Data Analysis and Interpretation**

This entire chapter presents the results (in tabular format) of various statistical test applied to research data. The outcome of data analysis and its interpretation have been accounted with regard to demographic profile and its correlation with WLB, validity and reliability of the research instrument, normality test and factor analysis. To realize research objectives and test hypotheses, descriptive and inferential statistics were calculated. Major findings were derived from mediated and moderated multiple regressions on WLB and Job Satisfaction variables.

#### **Chapter 5: Findings**

This chapter gives an overview of findings interpreted through data analysis. Doctors' present WLB status resulting from the effects of 'intrusion' and 'support' from professional and personal life domains and factors influencing this WLB are discussed. Doctors' satisfaction with Intrinsic and Extrinsic job factors (cognitive job satisfaction) and their feelings and emotions attached to job and hospital (affective job satisfaction) were explored. In the end, the chapter throws light on doctors' perception about WLB Programs and Initiatives, their satisfaction with choice of profession and turnover intention.

#### **Chapter 6: Suggestions**

The Suggestions chapter puts forth recommendations to improve doctors work life

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balance and overall job satisfaction. Strategies and actions as to what doctors, patients and hospitals can do to help doctors cope with WLB problems and maintain a balanced life have been discussed. Particularly this research being under the HRM faculty, major focus in this chapter was on initiatives that hospitals need to take. Based on doctors' preferences appropriate WLB Programs to support doctors are suggested along with the precautions that hospitals must deliberate upon before making any changes.

### **Chapter 7: Conclusions**

This concluding chapter presents the overview of research study and the major findings as against the stated research objectives. Implications and contribution of this study, specifically for hospitals are given. The chapter closes by describing certain limitations and scope for future research studies.