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Occupational Balance among Parents of Typically Developing Children and Parents of Children with Disabilities Living in Qatar

Brightlin Nithis Dhas
Nova Southeastern University

Occupational Balance among Parents of Typically Developing Children and Parents of Children with Disabilities Living in Qatar.

by

Brightlin Nithis Dhas

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NOVA SOUTHEASTERN UNIVERSITY
HEALTH PROFESSIONS DIVISION
DR. PALLAVI PATEL COLLEGE OF HEALTH CARE SCIENCES
OCCUPATIONAL THERAPY DEPARTMENT
FORT LAUDERDALE, FL 33328

This dissertation, written by Brightlin Nithis Dhas under direction of his Dissertation Committee, and approved by all of its members, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF PHILOSOPHY

DISSERTATION COMMITTEE

_____ _____

Ricardo C. Carrasco, Ph.D., OTR/L, FAOTA — Date
Chairperson of Dissertation Committee

_____ _____

Gustavo A. Reinoso, Ph.D., OTR/L — Date
Dissertation Committee Member

_____ _____

Catherine Backman, PhD, Reg. OT(BC), FCAOT — Date

Dissertation Committee Member

NOVA SOUTHEASTERN UNIVERSITY
HEALTH PROFESSIONS DIVISION
DR. PALLAVI PATEL COLLEGE OF HEALTH CARE SCIENCES
FORT LAUDERDALE, FL 33328

Certification

We hereby certify that this dissertation report, submitted by *Brightlin Nithis Dhas*, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirement for the Doctor of Philosophy degree.

Approved:

_____ _____
Rick Davenport, Ph.D., OTR/L — Date
Ph.D. in Occupational Therapy Program Director

_____ _____
Rebecca I. Estes, PhD, OTR, CAPS, ECHM — Date
Chair, Department of Occupational Therapy

_____ _____
Peter Taylor, Ph.D. — Date
Executive Associate Dean for Academic & External Affairs

_____ _____
Guy M. Nehrenz, Sr., EdD, MA, RRT — Date
Interim Dean, Pallavi Patel College of Health Care Science

Abstract

Parents of children with disabilities are often not the focus of intervention in occupational therapy practice although they are known to spend more time meeting the needs of their children and report poor occupational balance. The aim of the dissertation study was to compare the occupational balance among parents of children with disabilities and parents of typically developing children and to find, if any, significant predictors of occupational balance. The secondary objective was to investigate if there was any association between occupational balance and family quality of life. To fully understand the multiple perspectives of occupational balance and the factors associated with it, existing literature was reviewed at the commencement of the dissertation study. A cross-sectional observational comparison design was used. There were 178 participants and 89 parents of children with disabilities attending occupational therapy clinics in two major hospitals in Qatar and another 89 parents of typically developing children from the staff and relatives of the same hospital were recruited through convenience sampling. Sample size was estimated from a pilot study with 30 participants. The participants filled the occupational balance questionnaire, Family Quality of Life Survey–2006 and an investigator-developed demographic survey. Both Arabic and the English-speaking parents were recruited, collection forms were made available in English and Arabic. Before the commencement of the dissertation study, the occupational balance questionnaire was translated from English to Arabic. Independent *t* tests, Pearson correlations, and multiple regression analyses were used to analyze the data. The results showed that the occupational balance scores of parents of children with disabilities were statistically significantly lower than parents of typically developing children. A statistically significant, weak to moderate relationship was found between occupational balance scores and family quality of life scores, Finally, regression analyses showed that role satisfaction,

spousal support, number of children under 5 years of age, difficulty finding help, and satisfaction with health care were significant personal predictors of occupational balance in addition to presence of a child with disability in the family. Parents of children with disabilities are a risk group for experiencing low occupational balance, and occupational therapists working with such parents must routinely address these issues in their practice to facilitate better family quality of life.

Keywords: occupational balance, family quality of life, parents

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Introduction to the Chapter

The topic of interest in this dissertation study is occupational balance (OB), and the sample population of interest is parents of children with disabilities (PCWD) living in Qatar. The main objective of the dissertation study is to compare OB of PCWD with those of typically developing children (PTDC) and to analyze the relationships among various factors associated to OB. In this chapter, the background section had a brief description of the OB perspective used in the dissertation study and the reasons for studying OB among PCWD. The background section is followed by sections about problem statements specific to the context, relevance of the dissertation study findings for PCWD and the profession of occupational therapy (OT), specific research questions and hypothesis, and conceptual and operational definitions of variables used in the dissertation study.

Background to the Problem

OB is commonly defined as the individual's perception of having the right amount and variety of occupations in one's daily occupational pattern (Wagman et al., 2012). In addition to having a satisfactory mix of occupations in daily life, a sense of balance among different occupations also contributes to the perception of OB (Stamm et al., 2009; Wada et al., 2010). This sense of balancing is desired among occupations that are the following:

- Performed to satisfy and care for self-versus others (Stamm et al., 2009).
- Considered physical, social, mental, and rest (Wilcock et al., 1997).
- Done with others versus alone, occupations that are obligatory versus voluntary (Wilcock, 2006).

- Energy giving versus those who are energy consuming and restful versus strenuous (Wilcock, 2006).
- Challenging versus relaxing (Stamm et al., 2009).

Research has shown that PCWD experience poor OB (Hodgetts et al., 2014; Mcguire et al., 2004; Stein et al., 2011). There is ample evidence to suggest that PCWD spend considerably large amount of time in caregiving tasks (Crowe & Florez, 2006; Mccann et al., 2012; Rassafiani et al., 2012; Sawyer et al., 2011), leaving them with less free time for other occupations. On an average, PCWD have 1.5 hours less free time per day compared with PTDC (Luijkx et al., 2017), which could affect their OB. Therefore, it is reasonable to assume that altered time-use patterns resulting from the highly demanding special needs caregiving role leads to poor OB among PCWD. Even though PCWD has been known to strive towards achieving OB (Donovan et al., 2005; Santoso et al., 2015), the time demands put forth by the caregiving role makes it difficult for them (Mcguire et al., 2004; Stein et al., 2011).

OB is related to overall health and well-being, life satisfaction, and reduced stress levels (Håkansson & Ahlborg, 2017; Håkansson et al., 2009; Park et al., 2020; Wagman & Håkansson, 2014a; Wagman et al., 2020; Wilcock et al., 1997; Yu et al., 2018). PCWD has been known to report more stress (Meppelder et al, 2015; Miodrag et al., 2015), psychological problems (Al-Kuwari, 2007; Sawyer et al., 2011), and poor mental health-related quality of life (Rizk et al., 2011). Therefore, addressing OB could ultimately improve overall well-being and quality of life for PCWD.

Identification of factors related to OB is crucial in the development of intervention strategies to address OB. Backman (2010) has reported that certain factors from workplace, home and family, socio-economic changes and policies, social support and community, and

individual occupational factors can influence OB. Even though some of these factors are not the target of occupational therapy (OT) interventions, certain other factors could be positively modified by OT. There are indications that certain workplace factors (Borgh et al., 2018), understanding between couples (Håkansson et al., 2019), presence of children in the family (Wagman & Håkansson, 2014a), and certain occupational and day factors (Eriksson et al., 2011; Forhan & Backman, 2010) have a role in the perception of OB. Therefore, identification of the potential predictors of OB could help design health promotional interventions to promote OB among parents of PCWD.

The two primary objectives of this dissertation study were to determine whether PCWD are at increased risk of experiencing low OB compared with PTDC and to identify the potential predictors of OB. The secondary objective is to examine the relationship between OB and family quality of life (FQOL). In addition, the dissertation study has an exploratory objective to inspect the time-use patterns of the subgroup of PCWD who report high OB and to examine the factors contributing to the perception of high OB despite having a child with disability.

Statement of the Problem

The prevalence of childhood disabilities in Qatar could be presumably high due to the high prevalence of consanguineous marriages, but accurate estimates are unavailable due to scant data (Bener & Hussain, 2006; Evans et al., 2010). Therefore, the proportion of parents living with children with disabilities in their family could be high in Qatar. The high prevalence of psychological problems among PCWD living in Qatar (Al-Kuwari, 2007) gives rise to the presumption that they are at increased risk of reporting low OB. There have been no studies about OB among PCWD in Qatar.

Moreover, the workplace, home and family, socio-economic policies, social support, and community factors that were shown to influence OB in the western literature are different in Qatar to a large extent because of the widely divergent geopolitical and cultural context. Qatar also hosts a significant number of non-Qatari work residents who suffer from an added risk due to the absence of support from extended family resulting from temporary migration. The residents are from different geographical regions in the world, but a majority are from South Asia, Middle East and North Africa (MENA) and the Philippines (Online Qatar, 2019). The unique risk and protective factors of OB in relation to the local factors has not been included in any studies and needs to be examined.

Even internationally, there are hardly any studies that included comparisons of OB between PCWD and PTDC. Despite identified as a risk group for experiencing poor OB through qualitative studies, PCWD are under-represented in research on OB. There are limited studies about OB among PCWD and only a few researchers focusing on the predictive factors of OB. Likewise, there are hardly any researchers examining the impact of parents' OB on family well-being, such as FQOL.

Relevance

The dissertation study has been conducted with the aim of comparing the OB among PTDC and PCWD so that attention is directed to the largely overlooked scope within pediatric OT practice, which have health promotional interventions for PCWD. According to Moyers (2005), supporting a healthy balance of occupations among clients receiving OT services is a major role of health promotional OT practice. Currently, PCWD are not direct service recipients of pediatric OT services. Although, family-centered practice in pediatric OT has the emphasis on parents, currently such practices have focus more towards working with parents to make changes

on the child (Hinojosa et al., 2002). The impact of having a child with disability in the family in the perception of OB and its relationship to FQOL is essential to ascertain the need for educational interventions and hospital policies to address to address OB for PCWD.

Moreover, there is only limited evidence currently to inform OTs about which occupations to recommend in order to facilitate the right mix of occupations leading to OB. Dhas and Wagman (2020) suggested that knowledge of community occupation patterns, or the patterns of daily occupations shared by majority of the people in the community with high OB could serve as a reference point for making such recommendations in which understanding the average time spent on different occupations by PCWD with high OB gained through the dissertation study gains significance.

Elements

Theories

There are multiple theories and perspectives on OB. Wagman and Håkansson (2014b) designed their framework, which has been adopted in this dissertation study, which incorporated the following aspects:

- Satisfaction with the variation in the occupational pattern of balance between doing things for oneself versus others; balance between work, home, family, leisure, rest, and sleep; balance between doing things alone and with others; balance between physical, social, mental, and restful occupations; balance between obligatory and voluntary occupations; and balance between energy-giving and energy-taking activities.
- Satisfaction with the amount of each occupation.
- Satisfaction with total amount of occupations in relation to the available resources.

- Meaningfulness in the occupations.
- Amount of each occupation and variations in the occupational pattern, availability of resources, and the meaningfulness in occupations.

Primary Research Questions

1. Do PCWD living in Qatar report low OB compared with PTDC?
2. What are the predictors of self-reported OB among PCWD living in Qatar?

Secondary Research Questions

1. Is there an association between OB and FQOL among PTDC and PCWD living in Qatar?

Exploratory Research Questions

1. What is the average time use patterns among PCWD who report good OB?

Hypotheses

1. PCWD and PTDC do not differ significantly in their perception of OB.
2. There is no statistically significant correlation between OB and FQOL.
3. Certain personal factors can be combined as latent construct to predict Occupational Balance Questionnaire (OBQ 11) scores.

Definition of Terms

Occupational Balance

OB is defined as the individual's perception of having the right amount and variety of occupations in one's daily occupational pattern (Wagman et al., 2012).

Children with Disabilities

Children with disability denote any child under the age of 14 who has a medical diagnosis and whose parents report activity limitations in self-care, communication, or both.

Typically Developing Children

Typically developing children denotes any child under the age of 14 who does not have any chronic medical condition.

Day Factors

Factors that characterize distinct days, such as satisfaction with time spent on work, leisure, and so forth on a particular day or satisfaction with accomplishments, are termed as day factors. The list of day factors used in the dissertation study is shown in Table 1. These factors vary between different days and influence the overall perception of OB.

Occupational Factors

Factors that are associated with experiences of occupational performance that influence self-rated OB are termed as occupational factors. These factors are highly specific to the occupations and the environment in which they are performed. Examples of occupational factors include level of challenge, enjoyment, and so forth associated with occupational performance, which varies between occupations performed even within the same day. The list of occupational factors used in the dissertation study is shown in Table 1.

Personal Factors

Factors related to the individual are termed as personal factors. The list of personal factors used in the dissertation study is shown in Table 1.

Explanation of Variables

Occupational Balance

OB is the main outcome variable in the dissertation study. OB refers to an individual's perception of having the right amount and variety of occupations in one's daily occupational

pattern based on a regular week. Scores on the OBQ 11 indicates the level of OB. Higher OBQ 11 scores indicates high OB, and low OBQ 11 scores indicate low OB (Håkansson et al., 2020).

Family Quality of Life

FQOL is the secondary outcome measure in the dissertation study. FQOL is defined as "a dynamic sense of well-being of the family, collectively and subjectively defined and informed by its members, in which individual and family-level needs interact" (Zuna et al., 2010, p. 243). The Family quality of life survey (FQOL-2006) is used in the dissertation study to measure FQOL (Isaacs et al., 2007). A global score and a total score can be computed from the FQOL-2006 survey with higher scores indicating better FQOL (Samuel et al., 2016).

Independent Variables

The independent variables in the dissertation study are categorized into eight day factors, nine occupational factors, and 17 personal factors. These variables are shown in Table 1.

Table 1

Categorization of Independent Variables for the Dissertation Study

Day factors	Occupational factors	Personal factors
1. Satisfaction with outcomes	1. Challenge	1. Age
2. Work balance-time spent.	2. Skill	2. Gender
3. Leisure balance–time spent.	3. Enjoyable	3. Nationality
4. Rest balance–time spent.	4. Choice	4. Education status
5. Sleep balance–time spent.	5. Meaning	5. Marital status
6. Control-time spent.	6. Resources	6. Employment status
7. Control–relationships	7. Multitasking	7. Number of children
8. Occupational complexity	8. Place	8. Number of children below 5 years
	9. Social company	9. Presence of child with disability in the family
		10. Family income
		11. Spousal support
		12. Family support in child-care
		13. Family support in housework
		14. Availability of paid help
		15. Difficulty finding help.
		16. Satisfaction with health care services
		17. Role satisfaction

Day Factors.

Satisfaction with Outcomes. This day factor includes an individual's perception of a day with successful outcomes. This factor was measured by the question "At the end of the day, how satisfied are you that you have accomplished what you had set out to do?" (Forhan & Backman, 2010). A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question for 7 consecutive days, and the percentage of days with a score above 4 was calculated.

Work Balance Based on Time Spent. This day factor includes the perceived level of time spent on work in a day. This factor is measured by the question "Overall, how much time did you spend on work related activities today?" with five response categories: *way too much, too much, neither too much nor too little, too little,* and *way too little* (Eklund & Argentzell, 2016). Participants answered this question for 7 consecutive days, and the percentage of days with the response *neither too much nor too little* was calculated.

Leisure Balance Based on Time Spent. This day factor includes the perceived level of time spent on leisure in a day. This factor was measured by the question "Overall, how much time did you spend on leisure related activities today?" with five response categories: *way too much, too much, neither too much nor too little, too little,* and *way too little* (Eklund & Argentzell, 2016). Participants answered this question for 7 consecutive days, and the percentage of days with the response *neither too much nor too little* was calculated.

Rest Balance Based on Time Spent. This day factor includes the perceived level of time spent on rest in a day. This factor was measured by the question "Overall, how much time did you spend on rest related activities today?" with five response categories: *way too much, too much, neither too much nor too little, too little,* and *way too little* (Eklund & Argentzell, 2016).

Participants answered this question for 7 consecutive days, and the percentage of days with the response *neither too much nor too little* was calculated.

Sleep Balance Based on Time Spent. This day factor includes the perceived level of time spent on sleep in a day. This factor was measured by the question "Overall, how much time did you spend on sleep related activities today?" with five response categories: *way too much, too much, neither too much nor too little, too little,* and *way too little* (Eklund & Argentzell, 2016). Participants answered this question for 7 consecutive days, and the percentage of days with the response *neither too much nor too little* was calculated.

Perceived Control Over Time Spent on Occupations. This day factor includes an individual's perception of control over time spent on different occupations. This factor was measured by the question "Today, I could control how much time and energy to spend on different activities?" (Håkansson et al., 2009). A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question for 7 consecutive days, and the percentage of days with a score above 4 was calculated.

Perceived Control Over Time Spent on Relationships. This day factor includes an individual's perception of control over time spent on different relations. This factor was measured by the statement "Today, I could control the time and energy to spend on relationships, such as family, work, friends, and so forth." (Håkansson et al., 2009). A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question for 7 consecutive days, and the percentage of days with a score above 4 was calculated.

Occupational Complexity. This day factor includes the extent to which daily occupational pattern is disrupted by unexpected events. This factor was measured by the question "Was today's routine interrupted by unexpected events?" A seven-point Likert scale (1-7) from

not at all to *very much* was used to measure this variable. Participants answered this question for 7 consecutive days, and the percentage of days with a score above 4 was calculated.

Occupational Factors.

Enjoyment. This occupational factor is referring to the level of enjoyment experienced while doing an occupation. Level of enjoyment was measured by the statement "I enjoy doing this activity." A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question seven times a day for 7 consecutive days, and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Meaning. This occupational factor is referring to the level of meaning attributed to an occupation. Level of meaning was measured by the statement "This activity is meaningful and important to me." A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question seven times a day for 7 consecutive days, and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Occupational Choice. This occupational factor is referring to the level of individual's choice in continuing with an occupation. Level of choice was measured by the statement "I would rather be doing something else." A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question seven times a day for 7 consecutive days, and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Resources. This occupational factor is referring to the availability of resources to complete an occupation. This was measured by the statement "I have all the resources to do this well (e.g., time/space/money)." A seven-point Likert scale (1-7) from *not at all* to *very much* was

used to measure this variable. Participants answered this question seven times a day for 7 consecutive days, and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Satisfaction with Physical Environment. This occupational factor is referring to the satisfaction with the environment in which the participant performs the occupation. This factor was measured by the statement "I like being in this place." A seven-point Likert scale (1-7) from *not at all* to *very much* was used to measure this variable. Participants answered this question seven times a day for 7 consecutive days, and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Satisfaction with Social Company. This occupational factor refers to the satisfaction with the social company with whom the participant performs the occupation. This factor was measured by the statement "I would rather be with someone else." A seven-point Likert scale (1-7) from *not at all* to *very much* is used to measure this variable. Participants must have answered this question seven times a day for 7 consecutive days and the percentage of occasions an occupation was marked with a score above 4 and calculated.

Multitasking. This occupational factor is referring to participation in more than one occupation at a time. Participants must choose which occupation they are doing from a list of options seven times a day for 7 consecutive days. If a participant chooses more than one activity, it was counted as multitasking. The percentage of such multitasking was calculated.

Personal Factors.

Age. The personal factor, age of the respondent was grouped as 30 and less, 31 to 40, 41 to 50, 51 to 60, and 61 and above.

Gender. The personal factor, gender was recorded as male or female.

Nationality. The personal factor nationality was grouped under Middle East and North Africa, South Asia. Philippines, and others. The groupings followed by United Nations International Children's Emergency Fund (UNICEF, n.d.) was used to group countries under MENA and South Asia.

Education Status. The personal factor education status was grouped as higher secondary, diploma, undergraduate, and postgraduate.

Marital Status. The personal factor marital status was grouped as married, widowed, divorced, and separated.

Employment Status. The personal factor employment status was grouped as follows.

Governmental/Private/Self-employed/Unemployed. If employed, then

1. Full time/Part time.
2. Regular work/Flexible work/Shift work.
3. Work flexibility was measured by the question "Can I obtain flexibility in work arrangements to meet my caring responsibilities if needed?" on a four-point Likert scale (1-4) from *strongly disagree* to *strongly agree* (Wright et al., 2016).
4. Level of satisfaction with current job was measured by a four-point Likert scale (1-4) from *satisfied* to *dissatisfied.*

If unemployed, participants answered the question "Has being a parent stopped you from seeking employment because of your caregiving responsibilities?" with the response choice of yes or no.

Family Income. The personal factor family income in Qatari Riyals was grouped as less than 10,000, 10,000 to 20,000, 20,000 to 30,000, and more than 30,000.

Number of Children. The personal factor number of children denotes number of children in the family.

Number of Children Below 5 Years. The personal factor number of children below 5 years denotes number of children in the family who are less than 5 years old.

Presence of Child with Disability. The personal factor presence of a child with a disability denotes if parents listed any child who has a disability.

Role Satisfaction. For the personal factor role satisfaction, participants indicated their current roles and rated their level of satisfaction on a seven-point Likert scale (1-7) from *not at all* to *very much* from the eight predetermined roles in the role checklist (Oakley et al., 1986), namely student, worker, volunteer, caregiver, home maintainer, friend, family member, and religious participant. To indicate any additional roles they might have, an "Other" option provided at the end. Overall percentage of satisfaction with all roles was indicated and calculated.

Spousal Support. The personal factor spousal support was measured by the statement "Please rate the helpfulness of your partner" on a five-point Likert scale (1-5) from *not at all helpful* to *extremely helpful* (Warfield et al., 2005).

Family Support in Childcare. The personal factor family support in childcare was measured by the question "Do other members in the family assist you in caring for your child with disability?" on a three-response scale: Yes, to some extent, and No (Riyahi et al., 2017).

Family Support in Housework. The personal factor family support in housework was measured by the question "Do other members in the family assist you in caring for your child?" with disability on a three-response scale: Yes, to some extent, and No (Riyahi et al., 2017).

Availability of Paid Help: The personal factor availability of paid help was grouped under more than one full-time maid, one full-time maid, few hours every day, few days a week, once a week, occasionally, never.

Difficulty Finding Help. The personal factor difficulty finding reliable childcare was measured by one item from the Impact on Family Scale "It is hard to find a reliable person to take care of my child." on a five-point Likert scale (1-5) from *extremely hard* to *very easy* (Warfield et al., 2005).

Satisfaction with Health Care Services. The personal factor satisfaction with health care services was measured by the question "Overall, how satisfied are you with the quality of care received from health and rehabilitation services in Qatar?" (Liu et al., 2008). Responses were measured on a five-point Likert scale (1-5) from *very dissatisfied* to *very satisfied*.

Rationale

The dissertation study has been conducted to find the need for health promotion interventions and policies for PCWD, identification of the risk and protective factors for OB, and to understand the community occupation patterns of PCWD with high OB. All of these are essential in designing health promotional interventions for PCWD.

Summary of the Chapter

PCWD are at risk for experiencing low OB due to the demands imposed by the special-needs caregiving role. Because OB is related to overall health and reduced stress, addressing OB for PCWD is vital. The dissertation study has been conducted to examine the level of OB among PCWD and to find the potential predictors of OB that could contribute to the development of OB interventions. Wagman and Hakkanson's (2014b) perspective of OB is used to operationalize OB in the dissertation study. Various days, occupation, and person factors identified in the literature is treated as predictor variables.

Chapter 2: Review of the Literature

Introduction to the Chapter

While in the previous chapter, introduction to the basic idea and objectives of the dissertation study and definition of variables were provided. A thorough literature review of the concept of OB and the factors associated with the perception of OB is offered in this chapter. After an overview of OB among PCWD, a review of the different conceptualizations of OB by various theorists is provided followed by a review on factors influencing OB.

Overview of OB and PCWD

Parents of PCWD experience a hectic daily occupational pattern. They were found to spend more time on caregiving occupations (Crowe & Florez, 2006; Mccann et al., 2012; Rassafiani et al., 2012; Sawyer et al., 2011) and less time on work (DeRigne & Porterfield, 2017), sleep (Meltzer, 2008; Micsinszki et al., 2018), leisure (Cant, 1993), and discretionary (Crowe et al., 1997) occupations. Furthermore, PCWD were found to have extra occupations in their life, such as taking their children with disabilities for therapy appointments and carrying out home interventions (Hodgetts et al., 2014), making them vulnerable to experience low OB. Despite these vulnerabilities, there were limited studies about OB among parents of PCWD.

Relevant Theories about Occupational Balance

There was no unified theory for OB. Ever since Adolf Meyer mentioned the need for balance between work, play, rest, and sleep in his philosophy for occupation therapy in 1922 (Meyer, 1977), various researchers and theorists in OT and occupational science had attempted to theorize about a healthful balance of occupations in daily life using different terminologies.

The predominant view supported by many theorists was that OB is derived from balancing the different types of occupations in daily life. Yet, various theorists differed on the

exact type of occupations that need to be balanced. The types of occupations to be balanced in order to achieve OB and the respective theorists that proposed them are summarized in Table 2.

Table 2

Types of Occupations to Balance for Perception of Occupational Balance

Balance between	Meyer (1922)	Reilly (1966)	Kielhofner (1977)	Llorens (1984)	Spencer (1988)	Wilcock et al. (1997)	Jonsson & Persson (2006)	Matsuka & Christiansen (2008)	Stamm et al. (2009)	Wagman et al. (2011)	Wagman et al. (2012)	Wada et al. (2014)	Yazdani et al. (2016)	(Yazdani et al. (2018)
Work, play, rest and sleep.	X	X	X	X	X						X			
Actual versus desired occupations.						X		X		X		X		
Activities meaningful for the individual versus activities meaningful in a sociocultural context.									X	X		X	X	
Physical, mental, social, and rest occupations.						X				X	X			
Exacting, relaxing, and challenging occupations.							X							
Challenging versus relaxing occupations.									X					
Activities intended to care for oneself versus activities intended to care for others.									X					
Purposeful and meaningful occupations.														X

Several OB theorists also backed the idea that the subjective perception of OB is intricately linked to time-use patterns (Backman, 2004; Christiansen & Matsuka, 2006; Dhas & Wagman, 2020; Eklund et al., 2017; Wada et al., 2010; Wagman et al., 2012). Other major views about OB supported by at least more than three theorists are that OB is a sense of meaning derived from occupations (Backman, 2004; Eklund et al., 2017; Wada et al., 2010; Wagman et

al., 2011) and a feeling of balance between goals, capabilities, and environmental resources (Eklund et al., 2017; Jonsson et al., 2000; Wada et al., 2010; Wada et al., 2014; Yazdani et al., 2016). Few theorists had suggested that balance between work-life, family-life, and private-life (Wada et al., 2014; Wagman et al., 2011), compatibility in occupational participation (Backman, 2010; Wada et al., 2010; Yazdani et al., 2016), having neither too little nor too much to do (Bejerholm, 2010; Wagman et al., 2011), and participating in a mix of occupations (Eklund et al., 2017; Wagman et al., 2012; Wada et al., 2014) represented OB.

The multiple viewpoints on OB were a result of deliberations and/or research originating from different backgrounds and research population. Different population groups were considered distinct aspects in characterizing OB. Therefore, personal and situational characteristics appeared to dictate the nature of OB. To offer a few examples, a balance between *activities intended to care for oneself* versus *activities intended to care for others* was considered important to OB among people who experienced pain and physical limitations due to rheumatoid arthritis (Stamm et al., 2009). For people with mental illnesses, "having too much or too little to do" constituted occupational imbalance (Bejerholm, 2010). For people who went into retirement, a lack of challenging occupations contributed to occupational imbalance (Jonsson et al., 2000). Even though conceptualization of OB was diverse, there were few attempts to define the universal characteristics of OB that could be later tested among different population groups and cultures. The concept analysis of Wagman et al. (2012) was an example.

Perspective of OB used in the Dissertation Study

As there were multiple perspectives about OB, Wagman and Håkansson (2014b) suggested that researchers make an explicit statement for the perspective they used in their

research. In this dissertation study, the conceptualization of OB put forward by Wagman and Håkansson (2014b) was adopted. According to them, OB is a subjective perception of

- Variation in the occupational pattern (balance between work, home, family, leisure, rest, and sleep; doing things alone/with others; physical, social, mental, and restful occupations; obligatory/voluntary occupations; energy-giving/energy-taking activities; and doing things for others/for oneself).
- Number of each occupation (obligatory occupations, satisfaction with time spent, and number of occupations).
- Total number of occupations in relation to the available resources (time and opportunities).
- Meaningfulness in the occupations.

Factors Associated with OB

Various factors were associated with OB in earlier studies. All of them had to be identified to find the potential predictors of OB. Therefore, the following literature review was conducted, but only research that used the term "occupational balance" was included to avoid confusion and to improve clarity.

Demographic Factors

Age, gender, and educational status were not found to be associated with OB among general population (Wagman & Håkansson, 2014a; Yu et al., 2018). However, in a study among people with mental illness, women were found to be more often over-occupied in the domain of home chores and those who had college education felt underoccupied (Eklund & Argentzell, 2016).

Employment and certain life roles were associated with OB. Employment seemed to affect meaning associated with work occupations (Crist et al., 2000). While studying OB among four groups of people (employed without mental health conditions, unemployed without mental health conditions, employed without mental health conditions, and unemployed without mental health conditions), Crist et al. (2000) reported that people who were unemployed derived more satisfaction and value from self-care activities compared with people who were employed. Eklund and Argentzell (2016) reported that people with mental illness who were employed felt over-occupied. Certain workplace factors, such as positive attitudes from work colleagues towards parenthood and paternal leave and clear handover structure during absence, were associated with high OB (Borgh et al., 2018). OB did not differ significantly from general population and health professionals and between different health professionals (Wagman et al., 2017).

Caregiving roles, both of caring for typically developing children under the age of 18 (Wagman & Håkansson, 2014a) and children with disabilities (Yu et al., 2018) were associated with low OB. A growing number of qualitative studies were found in the literature that showed occupational imbalance was commonly experienced by participants with caregiving roles (Hodgetts et al., 2014; Naidoo et al., 2016). Grand parents' role was connected to high OB or occupational imbalance, depending on the amount and type of tasks associated with it (Ludwig et al., 2007). Having a graduate student role was associated with high OB, which was related to role of occupational choice (Crist et al., 2000).

Studies about OB among people with specific health conditions had indicated pathology-specific risk factors. Among people with rheumatoid arthritis, work limitations, self-care ability, and general health status predicted various dimensions of OB (Forhan & Backman, 2010). They

were also reported to work 8 fewer hours per week (in total) than the general population of the same age (Backman, 2004). Low OB was reported among people with chronic health conditions as well and vitality was found to be a significant predictor of OB in such population (Yu et al., 2018).

Day Factors

More time spent on work was associated with OB among people with limited systemic sclerosis (Sandqvist & Eklund, 2008) and among people with mental illness (Eklund et al., 2010). However, Eklund et al. (2010) suggested that such linear relationship between time spent on work and OB might not be found among people with strenuous work demands. Among people with rheumatoid arthritis, Backman et al. (2004) reported that more time spent on paid work was related to low self-rated OB. Less time spent on household chores was associated with OB among people with limited systemic sclerosis (Sandqvist & Eklund, 2008) and among people with mental illness (Eklund et al., 2010). OB was found to be enhanced by adding rest to daily occupational pattern (Gibbs & Klinger, 2011).

Occupational Factors

Although there were researchers who examined the relationship between occupational factors and OB directly, OB was found to be enhanced by adding fun and enjoyable activities in daily routine (Bazyk & Bazyk., 2009; Eriksson et al., 2011; Forhan & Backman, 2010). Having a lot of occupations of choice in daily routine was attributed to high OB among graduate students (Crist et al., 2000). It is also shown in qualitative studies that occupational factors could be altered by disease (Lund et al., 2015; Stamm et al, 2009) and retirement (Jonsson et al, 2000; Pettican & Prior, 2011)

Even though the above literature review was limited to studies that explicitly included the term “occupational balance” it has to be noted that even among the research studies using the term OB, different conceptualizations and measurement methods were used as shown in Table 3.

Table 3

Different Conceptualizations and Measurement of Occupational Balance in Quantitative Studies

Study	Tools used	Conceptual definition	Operational definition
Wagman et al., (2017) Wagman & Håkansson (2014a)	OBQ	Perception of having the right amount and variation of occupations in everyday life.	OB is indicated by a higher score in each item of the OBQ as well as the summed score.
Eklund & Argentzell (2016)	SDO-OB	OB is multi-dimensional and time-allocation perspective is one of the dimensions of OB.	Individuals are grouped into over-occupied, under-occupied or in balance based on SDO-OB scores.
Dür et al. (2016)	OB Quest	Positive evaluation of amount and variation of all activities.	OB is indicated by a lower score in each of the items on a seven-item questionnaire.
Håkansson et al. (2011)	Single item [§]	Ideal mix of occupations and satisfying, meaningful and healthful occupational pattern.	OB is indicated by a higher score in response to a 4-point ordinal agreement scale.
Bejerholm (2010)	Part I of POES[#]	Good correspondence between personal, occupational, and environmental factors over time.	Individual is identified by the therapist to be over-occupied, under-occupied or in balance through a standard procedure based on POES-Part1.
Eklund et al. (2010)	OVal-pd[∞] & SDO	Satisfaction with daily occupations and occupational value are indicators of OB.	Higher scores in OVal-pd and SDO indicates higher OB.
Forhan &Backman (2010)	Three single-items[β]	Satisfaction with ability to perform main occupation, balance of time-spent, and achievement.	OB is indicated by a higher score in a three single item 10-point scale.
Håkansson et al. (2009)	Three single-items[φ]	Experience of balance between gainful employment, domestic work, and enjoyable occupations.	OB is indicated as a higher score on three items in an eight-item questionnaire.
Sandqvist & Eklund (2008)	24-h diary & SDO	Time use across different occupations and satisfaction with occupational engagement are indicators of OB.	No operational definition was provided for OB in the time use component. Higher scores in SDO were considered as contributing to OB.
Backman et al. (2004)	Single-item[ϕ]	OB is defined as balance of time spent in self-care, leisure, rest, paid and unpaid work.	OB is indicated by a higher score in response to a 10-point response question.

Note. OBQ-Occupational balance questionnaire; SDO-OB: Satisfaction with daily occupations. Occupational balance; SDO: Satisfaction with daily occupations; OBQ-Quest: Occupational balance questionnaire. §I have balance between different occupations in my occupational pattern. #Profile of occupational engagement in people with schizophrenia: Part 1 is a 24-hour time use diary consisting of information on personal, occupational, and environmental factors. ∞Occupational Value with pre-defined items: 28-item Questionnaire assessing value attributed to daily occupations. It consists of three dimensions namely concrete, symbolic, and self- reward value. β-(1) How satisfied are you in your ability to perform your main work activity? (2) How satisfied are you with the balance of time you spend on work, self-care, leisure, and rest? (3) At the end of the day, how satisfied are you that you have accomplished what you had set out to do? φ-(1) I have balance between different occupations in my occupational pattern. (2) I have balance between being together with other people and being alone. (3) I can give support to others and accept support from others.''ϕ-How satisfied are you with the balance of time you spend on work, self-care, leisure, and rest?

Summary of the Chapter

In summary, OB emerged from a simple idea of balancing work, play, rest, and sleep for a healthy life, but the concept was stretched out by various theorists to include various dimensions. Currently, there are multiple perspectives on OB and various factors associated with its perception, but OB is commonly believed to be individualistic, subjective, and dynamic. This chapter presented a review on the different perspectives of OB and the various factors associated with its perception. At the same time, the perspective of OB that is used in the dissertation study and the factors included for analysis were also conveyed.

Chapter 3: Methodology

Introduction to the Chapter

This chapter begins with the summary of the pilot study followed by description of the research design. Specifics related to the research design, such as the study rationale, threats, study setting, participants, power, sample size, inclusion and exclusion criteria, characteristics, recruiting procedures, instruments, ethical review, funding and data analysis related to the dissertation study, are described.

Pilot Study Summary

There main objective of the pilot phase was to estimate the effect sizes for sample size calculation. Fifteen PCWD and another 15 PTDC were recruited for the pilot phase. An independent *t* test was performed to compare the mean OBQ 11 scores between the two groups. The results are shown in Table 3. The difference in means was statistically significant, which meant that the sample of 30 was adequate to confirm the primary objective of the dissertation study. However, the secondary objective, which was to identify significant predictors of OB, required a larger sample. Therefore, sample size requirements for two main modifiable factors, role satisfaction and spousal support, were calculated based on the effect sizes calculated from the pilot data (Cohen's $d = 0.763$) with an alpha level of .05 and power of .80. The required sample for the two factors was found to be 32 and 178. The higher sample of 178 was used in the dissertation study.

Table 4

Independent t-Test Results for Comparison of OBQ 11 Means from Pilot Data

Group	*N*	Mean	Std. Deviation	*t* value	*p* value	95% CI	
						Lower	Upper
PTDC	15	31.20	5.506	2.090	.04	0.076	7.524
PCWD	15	27.40	4.388				

Note. PTDC parents of typically developing children; PCWD parents of children with disabilities.

During the pilot study, data collection on the day and occupational factors through experience sampling methodology were found not to be feasible because of the extremely poor response rate. Therefore, a decision was taken into consideration with the dissertation chair not to continue with data collection on occupational and day variables using experience sampling.

Research Design and Methodology

The primary objectives of the dissertation study were to examine whether PCWD living in Qatar report low OB compared with PTDC to identify the significant potential predictors of OB and to explore the relationship between OB and FQOL.

Study Design

The primary design used in the dissertation study was cross sectional. It could be considered cross sectional group-comparison design as it involved comparison of two groups: PCWD and PTDC. The design could also be considered cross sectional correlational as it involved systematic investigation of relationships between OB and FQOL and cross sectional observational as it involves collection of data as they naturally exist without manipulation at one point in time (Portney & Watkins, 2015).

Rationale

The goal of the dissertation study was to know the difference in OB among PCWD and PTDC measured at one point in time and to describe the strength and direction of relationships among the study variables. Correlational and group comparison cross sectional-observational design is appropriate to meet the objectives of the dissertation study.

Threats

Statistical conclusion validity concerns the inappropriate use of statistical tests in analysis, which could potentially lead to invalid conclusions about the relationship between independent and dependent variables (Portney & Watkins, 2015). Construct validity concerns whether variables in the study are developed theoretically to allow reasonable interpretation and generalization of their relationship. External validity refers to the extent to which the study results can be generalized to the target population beyond the study population (Portney & Watkins, 2015). The dissertation study has various threats to validity, which are summarized in Table 4 along with strategies about how they were addressed.

Table 5

Threats to Validity of the Dissertation Study

Type	Threats	How it was addressed
Statistical conclusion validity	Low statistical power	Power analysis was made from the data gathered during the pilot study to decide the adequate sample size for the dissertation study.
	Violated assumptions of statistical tests	Descriptive statistics was performed during data analysis to check the distribution of data and suitable statistical tests was chosen.
	Presence of extraneous factors	Dependent variables were measured using reliable tools. Statistical error variance was calculated to account for other factors that increase the variability within the data, such as environmental interferences and heterogeneity of subjects.
Construct validity	Mono method bias	Only OBQ 11 was used to operationalize OB, which could affect construct validity.
External validity	Population validity	The convenient sampling method used in the dissertation study rendered the sample non-representative, which affects the external validity of the findings. Another factor that affected population validity is the residency status for non-Qataris. One of the inclusion criteria for the dissertation study was that participants should live with their family. There is a minimal income requirement to attain family residency for non-Qataris. Hence those non-Qataris who could not get family status due to low income and live alone in Qatar with their family in their native countries were excluded, which reflects the nature of the non-Qatari community in Qatar and generalizations to non-Qataris was limited to Non-Qataris residing in Qatar.
	Ecological validity	As the recruitment was limited to one setting, ecological validity was affected.
	Temporal validity	The study was carried out during the global COVID-19 pandemic. Even though the data collection was done between November 2020 to January 2021 when Qatar had come back to a near-normal state following lifting of almost all the internal movement restrictions, the international travel restrictions were still in place, which could have affected temporal validity of findings.

Study Setting

The dissertation study was carried out in two major rehabilitation hospitals in Qatar.

Subjects (Participants)

PCWD were recruited from those attending OT outpatient clinics between October 2020 and January 2021 in two major rehabilitation hospitals in Qatar. PTDC were recruited from non-clinical staff and family members of staff from the same hospitals.

Power

A power analysis was done using the effect size of 0.763 derived from the pilot phase. Following standard recommendations, alpha level was set at .05 and power at .80 (Kellar et al., 2013).

Sample Size

The primary hypothesis of the dissertation study is that the groups of PCWD do not differ from PTDC in their OBQ 11 scores for which independent *t* test will be used. Given that the results from the 30 participants in pilot phase showed statistically significant difference between the two groups in total OBQ 11 scores, a sample of 30 was adequate to reject the null hypothesis. However, the secondary objectives, which is to identify significant predictors of occupational balance required a larger sample. Therefore, sample size requirements for two main modifiable factors, role satisfaction and spousal support, were calculated with the respective effect sizes from the pilot data with an alpha level of .05 and power of .80, which was found to be 32 and 178. The higher sample of 178 was used in the dissertation study.

Inclusion Criteria.

Inclusion Criteria for PCWD.

- Parents who had one or more child with disability in the family.
- Parents who were living with their children at least for the past month.
- Parents who could read English or Arabic.

Inclusion Criteria for PTDC.

- Parents who had at least one typically developing child and no child with disability in the family.
- Parents who were living with their children at least for the past month.

- Parents who could read English or Arabic.

Exclusion Criteria

Exclusion Criteria for PCWD.

- Parents who did not provide consent.
- Parents whose children did not stay with them for the last one month.
- Parents who did not understand English or Arabic.

Exclusion Criteria for PTDC.

- Parents who did not provide consent.
- Parents whose children did not stay with them for the last one month.
- Parents who did not understand English or Arabic.
- Parents whose work included direct contact with patients/caregivers.

The above inclusive criteria were determined in order to recruit participants who could provide data to answer the research questions as well as competent to complete the data collection instruments.

Characteristics

The participants included both native Qataris as well as residents of Qatar. Residents belonged to 21 countries grouped under MENA, South Asia, Philippines, and others. All the subjects were fluent in either English or Arabic. Both fathers and mothers were included. Residents who were living alone in Qatar with their family living in their own countries were not represented.

Recruiting Procedures. There were two groups of participants in the dissertation study: one comprising PCWD and the other comprising PTDC. PCWD were recruited from the outpatient OT clinics in two major rehabilitation hospitals in Qatar. PTDC were recruited from

the non-clinical staff from these hospitals and the family members of the staff who met the inclusion criteria. The participants were first screened to determine eligibility and the willingness to participate. Those who meet the eligibility criteria and expressed willingness to participate were recruited.

Specific Procedures

Instruments and Measures. Two standardized outcome measures were used in the dissertation study: the OBQ11 and FQOL-2006. In addition, a demographic questionnaire was used to collect information on the personal factors of OB.

Occupational Balance Questionnaire. OBQ 11 is the revised version of the occupational balance questionnaire (Håkansson et al., 2020). It is an 11-item self-rated questionnaire to assess a person's perception of OB in terms of having the right number and variation of occupations in everyday life. Each item in OBQ 11 is rated on a four-point Likert scale ranging from 0 to 3. The total score ranges from 0 to 33 with higher scores indicating higher OB. Individual items can also be taken separately to analyze the various aspects of OB. Psychometric properties, including content validity, internal consistency and test–retest reliability for OBQ 11 was found to be good (Håkansson et al., 2020). The OBQ 11 was translated to Arabic at the beginning of the dissertation study, following standard translation guidelines (Beaton et al., 2000). Permission to use the OBQ 11 and to translate to Arabic was obtained from the author. The manuscript describing the translation and initial validation of OBQ 11-Arabic has been submitted to a journal for publication.

Family Quality of Life Survey-2006. Family Quality of Life Survey-2006 (FQOL-2006) was developed by a group of international researchers to measure FQOL and has been used in many countries (Isaacs et al., 2007). The responses to the FQOL-2006 items are indicated on a

five-point Likert scale (1-5) from lowest to highest. Nine core domains are included in the FQOL-2006: health of the family, financial well-being, family relationships, support from other people, support from disability-related services, influence of values, careers and preparing for careers, leisure, and community interaction. Each of these domains of family life is assessed by the six measurement dimensions on a five-point ordinal scale. Out of these six dimensions, two were outcome dimensions (attainment and satisfaction) and four were explanatory dimensions (Isaacs et al., 2007). In addition, the FQOL-2006 has two single-items in the end that measure overall FQOL on a five-point ordinal scale. Two scores were derived from the FQOL-2006 in the dissertation study. A total score ranging between 18 and 90 was calculated by adding the attainment and satisfaction ratings of the nine domains (18 items) and a global score ranging between 1 and 5 was obtained from calculating the mean of two overall items (Samuel et al., 2016). The psychometric properties of FQOL-2006 are acceptable (Perry & Isaacs, 2015; Samuel et al., 2018). FQOL was translated to Arabic by Neikrug et al. (2011) and has been used in other studies (Neikrug et al., 2014; Roth & Brown, 2017). There is a demographic part in the FQOL, which was not used in the dissertation study. Permission to use the English and Arabic version of FQOL in this dissertation study was obtained from the author.

Demographic Questionnaire. The demographic questionnaire developed for this dissertation study was used to collect data about the personal factors of OB. The demographic questionnaire is shown in the appendix.

Strengths and Weaknesses of Design. The cross-sectional design is more cost effective and feasible, which are its strengths. The weakness is that with this design, cause-effect relationships cannot be addressed. Hence, statistical associations between potential predictors and OB were determined through regression analysis in the dissertation study.

Ethical Considerations and Review

Ethical approval was obtained from the institutional review boards of Nova Southeastern University (IRB #: 2019-45) where the principal investigator is enrolled as a PhD student as well as from Hamad Medical Corporation (MRC #: 01-18-465) from where the participants were recruited.

Funding

Funding was received from the Medical Research Center grant from Hamad Medical Corporation.

Data Analyses

Data analysis was done in four stages. In the first stage, data screening and descriptive statistics were produced for all variables followed by imputation of missing values as appropriate. In the second stage, comparison of OBQ 11 means for PTDC and PCWD was done using independent *t* tests. Group-wise correlation analyses were done for OBQ 11, and global and total FQOL-2006 scores for PTDC and PCWD group were in the third stage. In the final stage, linear and logistic regression models were created to predict OBQ 11 scores.

Regression analysis was done in six steps (Kellar et al., 2013). In the first step, it was decided to keep all the independent variables for the initial analysis, and the alpha was kept at .05. Secondly, univariate frequencies and descriptive statistics were produced for all predictor variables and OBQ 11 scores. Thirdly, bivariate analysis was done for all predictor variables to test the relationship between individual predictor variables and OBQ 11 scores and correlation matrix was produced for all independent variables. In the fourth step, the initial variables for multivariate analysis were determined. Only those variables that showed statistically significant association with the OBQ 11 were decided to be kept. Variables that had intercorrelation above

.70 were combined (Meyers et al., 2013). A standard regression model with the remaining predictors was run in the fifth step. A multiple regression model was built with OBQ 11 total scores and another logistic regression model was built by categorizing total OBQ 11 scores as high/low based on median. All variables identified in the previous step were entered into the model simultaneously. The models were checked for statistical significance and the strength of individual predictors was examined. In the last step, practical significance was discussed.

Summary of the Chapter

In this chapter, the research methodology and procedures for the dissertation study was described. Two group of parents, PTDC and PCWD, were recruited. Both the groups completed the OBQ 11, FQOL-2006, and the demographic questionnaire. The data were analyzed using suitable statistical tests to verify the hypothesis of the dissertation study. The results of the analyses are presented in the next chapter.

Chapter 4: Results

Introduction to the Chapter

A total of 178 participants completed the surveys. Statistical analyses were conducted to verify the two null hypotheses and one alternate hypothesis associated with the three aims of the dissertation study. The hypotheses are as follows:

1. There is no statistically significant difference in the OBQ 11 scores between PCWD and PTDC.
2. There is no statistically significant correlation between OBQ 11 scores and global and total FQOL-2006 scores.
3. Certain independent variables measured in the dissertation study can be combined as latent construct to predict OBQ 11 scores.

This chapter presents the results of the statistical analyses and is organized into four sections: data screening and descriptive statistics, comparison of OBQ 11 means for PTDC and PCWD, correlation statistics for OBQ 11 and global and total FQOL scores, and prediction models for OBQ 11 scores.

Data Screening and Descriptive Statistics

There were 178 participants in total, and 67 of them (38%) filled the surveys in Arabic, and the remaining 111 (62%) filled the surveys in English. Eighty-nine participants (50%) were PCWD, and another 89 participants were PTDC. Before proceeding with the data analysis, all variables were screened for possible code violations, missing values, and presence of outliers, which was followed by descriptive analysis and diagnostic tests for finding violations of statistical assumptions.

Missing Values

All the 178 participants filled in the demographic survey, OBQ 11, and FQOL-2006 survey. Information on independent variables was collected from the demographic questionnaire. There was a total of 17 independent variables. The main outcome variable is the OBQ 11 scores. Other outcome variable was the global and total scores of the FQOL-2006. PTDC participants did not fill one of the nine domains in FQOL-2006 because support from disability-related services as this domain was not relevant for them. Data from all these surveys were screened for missing values on the independent and outcome variables. Variables for which missing values were found and their percentage are listed in Table 6.

Table 6

Missing Values for Variables

Name of the variable	Valid *n*	Number missing			Percentage missing		
		PTDC	PCWD	Total	PTDC	PCWD	Total
No of children less than 5 years	178	0	1	1	0	.56	.56
Income	178	1	1	2	.56	.56	1.12
No of roles	178	13	9	22	7.3	5	12.3
Role satisfaction	178	14	9	23	7.7	5	12.7
Spousal support	178	1	0	1	.56	0	.56
Family support in childcare	178	1	0	1	.56	0	.56
Family support in housework	178	1	0	1	.56	0	.56
Presence of paid help	178	1	0	1	.56	0	.56
Difficulty obtaining help	178	1	3	4	.56	1.7	2.2
Satisfaction with health care	178	5	0	5	2.8	0	2.8
Work flexibility	126	1	2	3	.79	1.59	2.4
Reason for unemployment	52	0					

Note. PTDC parents of typically developing children. PCWD parents of children with disabilities.

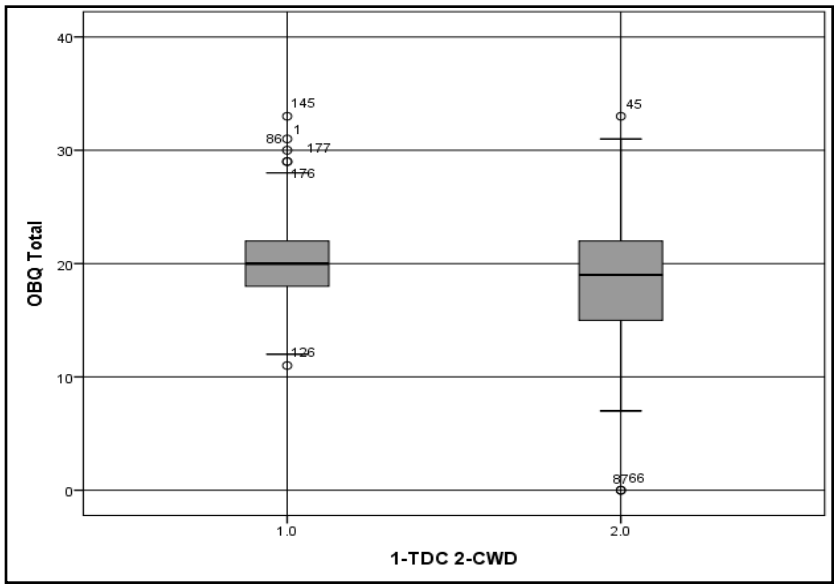
Role satisfaction was the only variable with comparatively large missing values, accounting for 12.3%. The mean and median for this variable was found to be close: 82 and 81, respectively. Therefore, mean substitution was done for missing values for role satisfaction. The rest of the missing values were left unattended.

Outliers

Box and Whiskers plots were examined to identify univariate outliers for the outcome variables. For the OBQ 11 total scores, five outliers were identified for PTDC: four on the higher spectrum and one on the lower spectrum. One outlier was identified on the upper spectrum for PCWD. However, these outliers were retained in the data as they were the actual responses from the participants. The Box and Whisker plots are shown in Figure 1.

Figure 1

Box and Whisker Plots for Total OBQ 11 Scores



Descriptive Statistics

The frequencies and percentages for the categorical independent variables, Likert type variables, and continuous variables (including outcome variables), are shown in different Tables 7, 8, and 9, respectively. Descriptive statistics for item-wise OBQ 11 scores is shown in Table 10.

Distribution of Outcome Variables

The histograms for the outcome measures, total OBQ 11 scores and total and global FQOL-2006 scores were examined to check if the data followed normal distribution. Visual inspection of the histogram of the total OBQ 11 scores showed normal distribution (See Figure 2). For FQOL-2006, group-wise histograms for the group of PCWD and PTDC were plotted as PTDC did not complete one domain of FQOL-2006. These histograms are shown in Figure 3. The data appeared to follow normal distribution. Visual inspection was backed by the kurtosis and skewness values, means, and standard deviations.

Table 7

Frequency and Percentages for Categorical Independent Variables

Variable	Frequency	Percent
PTDC/PCWD		
PTDC	89	50
PCWD	89	50
Age		
Below 30	29	16.3
30–40	101	56.7
Above 40	48	27
Sex		
Male	75	42.1
Female	103	57.9
Marital status		
Married	175	98.3
Divorced	3	1.7
Education		
Higher secondary	23	12.9
Diploma	23	12.9
Undergraduate	39	21.9
Postgraduate	93	52.2
Nationality		
Middle East and North Africa	66	37.1
Filipino	31	17.4
South Asia	60	33.7
Others	21	11.8
Employed		
Yes	126	70.8
No	52	29.2
Employment–categories		
Employed–flexible work	93	52.2
Employed–non-flexible work	34	19.1
Unemployed due to childcare responsibilities	32	18
Unemployed due to other reasons	18	10.1
Income		
<10k	38	21.3
10k-20k	83	46.6
20k-30k	37	20.8
>30k	18	10.1
Number of children		
One	39	21.9
Two	91	51.1
Three or more	48	27

(continued)

Variable	Frequency	Percent
0	47	26.4
1	83	46.6
2	42	23.6
3	4	2.2
4	1	0.6
Family Support in childcare		
No	74	41.6
To some extent	37	20.8
Yes	66	37.1
Family Support in housework		
No	74	41.6
To some extent	40	22.5
Yes	63	35.4
Availability of paid help		
Never	95	53.4
Occasional	47	26.4
Full time	35	19.7

Note. PTDC = parents of typically developing children. PCWD = parents of children with disabilities

Table 8

Frequency and Percentages for Likert-Type Variables

Variable	Frequency (n = 178)	Percent
Spousal support		
1 (Not at all helpful)	7	3.9
2	5	2.8
3	29	16.3
4	40	22.5
5 (Extremely helpful)	96	53.9
Difficulties in finding help		
1 (Extremely hard)	38	21.3
2	50	28.1
3	60	33.7
4	17	9.6
5 (Very easy)	9	5.1
Satisfaction with health care		
1 (Very dissatisfied)	3	1.7
2	15	8.4
3	29	16.3
4	59	33.1
5 (Very satisfied)	67	37.6

Table 9

Descriptive Statistics for Continuous Variables

Variable	*N*	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Role Satisfaction	178	28	100	81.29	12.82	-0.923	2.439
Total OBQ11	178	0	33	19.46	5.254	-0.302	1.42
Global FQOL	178	1	5	4.022	0.7245	-0.699	1.39
Total FQOL for PTDC*	89	37	80	63.80	8.579	-0.457	0.563
Total FQOL for PCWD	89	43	90	70.57	8.975	-0.316	0.322

Note. All except role satisfaction were outcome variables. *Excluding one subscale–support from disability services.

Table 10

Descriptive Data for Item-Wise OBQ 11 Scores

OBQ 11 questions	PTDC Mean, SD (Mdn, Range)	PCWD Mean, SD (Mdn, Range)	Total Mean, SD (Mdn, Range)
Item 1 (enough to do during a regular week)	2.02,0.56 (2,3)	1.99,0.65 (2,3)	2.01,0.61 (2,3)
Item 2 (balancing between others and self)	1.82,0.59 (2,3)	1.8,0.74 (2,3)	1.81,0.67 (2,3)
Item 3 (time for doing things wanted)	2.08,0.53 (2,2)	1.9,0.72 (2,3)	1.99,0.64 (2,3)
Item 4 (balancing work, home, family, etc.)	2.02,0.52 (2,2)	1.84,0.74 (2,3)	1.93,0.64 (2,3)
Item 5 (time for doing obligatory occupations)	1.8,0.64 (2,3)	1.62,0.71 (2,3)	1.71,0.68 (2,3)
Item 6 (balancing different occupation types)	1.79,0.57 (2,2)	1.53,0.68 (2,3)	1.66,0.64 (2,3)
Item 7 (satisfaction with how time is spent)	1.74,0.65 (2,2)	1.52,0.68 (2,3)	1.63,0.67 (2,3)
Item 8 (satisfaction with number of activities)	1.87,0.62 (2,2)	1.57,0.65 (2,3)	1.72,0.65 (2,3)
Item 9 (balancing obligatory and voluntary)	1.79,0.57 (2,2)	1.73,0.67 (2,3)	1.76,0.62 (2,3)
Item 10 (balancing energy-giving and energy-taking)	1.76,0.64 (2,2)	1.56,0.75 (2,3)	1.66,0.70 (2,3)
Item 11 (satisfaction with time spent in restful activity)	1.71,0.68 (2,3)	1.47,0.72 (1,3)	1.59,0.71 (2,3)

Note. Occupational balance item scores range between 0 (lowest) and 3 (highest). PTDC is parents of typically developing children. PCWD is parents of children with disabilities. SD is standard deviation. Mdn is median.

Figure 2

Histogram for Total OBQ 11 Scores

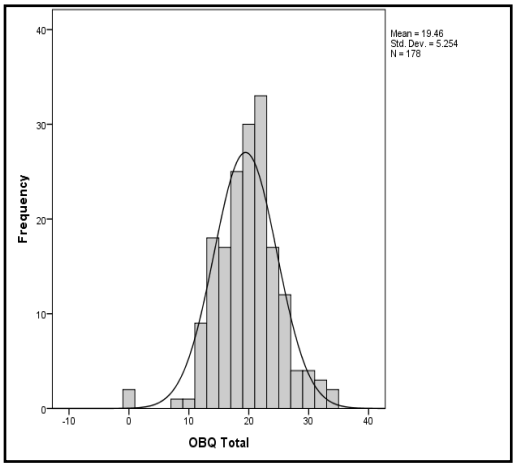
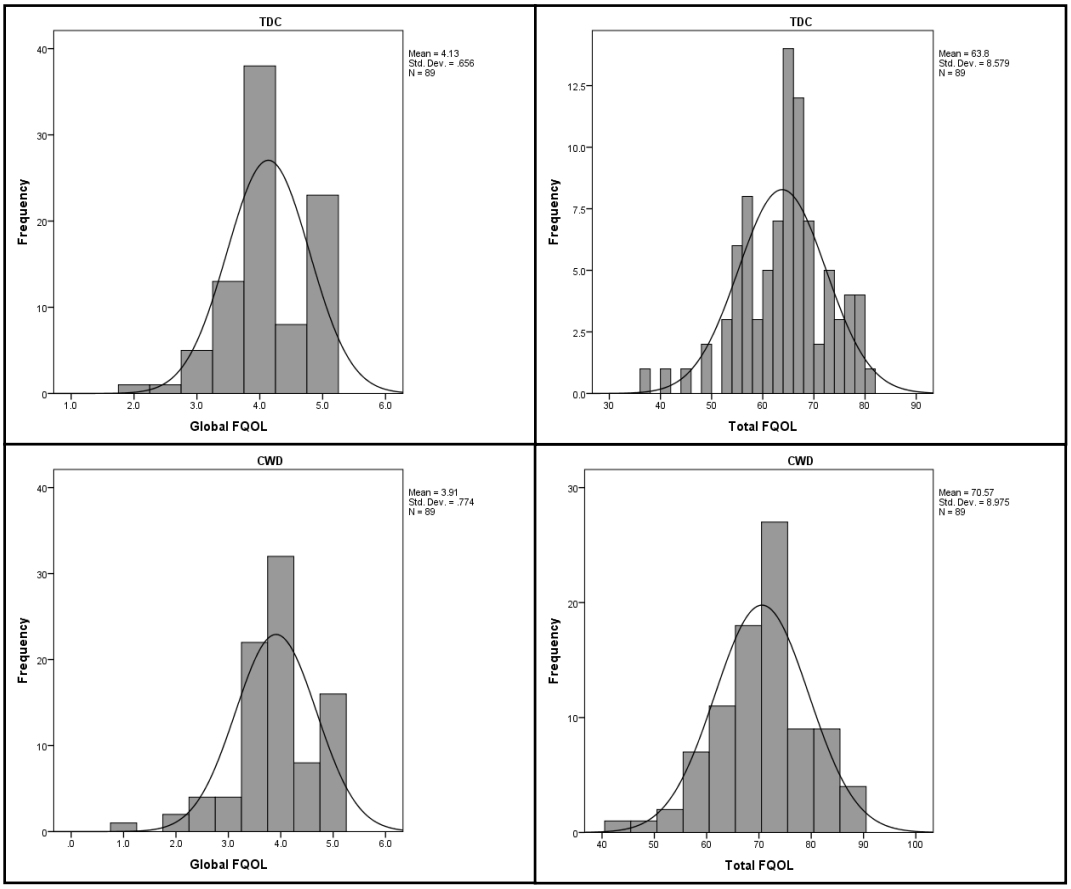


Figure 3

Histogram for Global and Total FQOL-2006 Scores among PTDC and PCWD



Comparison of OBQ 11 Means

Before proceeding with independent *t* tests to compare the OBQ 11 means between PTDC and PCWD, Chi-square tests were performed to see whether both the groups, PTDC and PCWD, were similarly distributed on the demographic variables. The results are summarized in Table 11.

Table 11

Differences between PTDC and PCWD in the Sample

Variables	Variable		Total	Chi square	*p* value
	PTDC (*n* = 89)	PCWD (*n* = 89)			
Age					
Below 30	20	9	29		
30–40	44	57	101	5.93	.052
Above 40	25	23	48		
Sex					
Male	34	41	75	1.13	.288
Female	55	48	103		
Education					
Higher secondary	12	11	23		
Diploma	15	8	23	3.4	.328
Undergraduate	16	23	39		
Postgraduate	46	47	93		
Employment					
Employed	61	65	126	0.44	.510
Unemployed	28	24	52		
Employment categories					
Employed–flexible work	45	48	93		
Employed–non-flexible work	19	15	34	1.28	.732
Unemployed due to childcare responsibilities	14	18	32		
Unemployed due to other reasons	10	8	18		
Nationality					
Middle East and North Africa	33	33	66		
Filipino	15	16	31	0.08	.994
South Asia	30	30	60		
Others	11	10	21		
Income					
>10K	11	27	38		
10K-20K	45	38	83	10.82	.013*
20K-30K	24	13	37		
<30K	8	10	18		
Number of children					
One	22	17	39		
Two	49	42	91	4.18	.124
Three or more	18	30	48		
Number of children below 5					
None	32	15	47		
One	40	43	83	9.85	.007*
Two or more	17	30	47		

Note. *Significant at the .05 level

From the chi-square test, there was no significant difference in the distribution of the variables except for number of children below age 5 and income at 5% level of significance. Age group approached close to significance at 5%. There were more parents (12% more) under age 30 in the PCWD group compared with the PTDC group. PTDC group had more parents (14% more) of the age group between 30 and 40. On the family income, more parents (16% more) on the PCWD reported an income less than 10,000 Qatari riyals compared with PTDC. In the 10,000 to 20,000 and 20,000 to 30,000 range, the PTDC group had more, 8% and 13% more, respectively. On the income range of above 30,000, PCWD had 2% more parents compared with PTDC. Thirty-six percent more of parents belonging to PCWD had a child of age less than 5 years.

Means of total OBQ 11 of PCWD and PTDC were compared to verify the first hypothesis of the dissertation study. There were 89 parents from each group. The mean age of children with disabilities of the PCWD in the sample was 4.5 years and standard deviation was 2.47. The minimum age was 6 months, and the maximum age was 13 years. Two parents in the PCWD group had two children with disability in their family. Characteristics of children with disabilities in the sample are shown in Table 12.

Independent *t* test was used to compare the means of total OBQ 11 score between PTDC and PCWD. Even though the kurtosis value was high for the total OBQ 11 scores, the sample size was adequate, division of cases between both groups the same, the variance was within acceptable range, and an independent two sample *t* test was used at 5% level of significance. The results are shown in Table 13. PCWD scored significantly low on OBQ 11 at 5% level of significance compared with PTDC, and the difference in mean was close to 2 points.

Table 12

Characteristics of Children with Disabilities in the Sample

Variable	Frequency (N = 89)	Percent
Diagnosis		
Developmental Delay	16	18
Downs syndrome	5	5.6
Cerebral Palsy	12	13.5
Autism Spectrum Disorders	44	49.4
Learning Disability	1	1.1
Others	11	12.4
Assistance with self-care		
Requires assistance for almost all self-care activities	38	42.7
Requires assistance for most but not all self-care activities	31	34.8
Requires assistance for only some self-care activities	17	19.1
Does not require assistance for self-care activities	2	2.2
Communication		
Very little meaningful communication	38	42.7
Able to communicate basic needs and wants	28	31.5
Able to communicate needs, wants, and some ideas in a meaningful way	14	15.7
Able to communicate within a limited range of topics in a meaningful way	6	6.7
Able to communicate about a wide variety of topics in a meaningful way	2	2.2

Table 13

Independent t-Test Results for OBQ 11 Means

Group	N	Mean	Std. Deviation	t value	p value	95% CI	
						Lower	Upper
PTDC	89	20.39	4.658	2.40	.02	0.331	3.399
PCWD	89	18.53	5.663				

Note. PTDC-Parents of typically developing children; PCWD-Parents of children with disabilities.

Correlations between OBQ 11 and FQOL-2006

Total OBQ 11 scores and total and global FQOL-2006 scores were compared to verify the second hypothesis of the dissertation study. As PTDC did not complete one subscale of the FQOL-6, group-wise correlations were done between OBQ 11 total scores and FQOL-2006 scores. Scatter plots were examined for linear relationship between the variables. Clear linear

relationship was evident between total OBQ 11 scores and total FQOL scores. Association between total OBQ 11 scores and global FQOL scores appeared somewhat linear with not so high correlation, but there was no visible nonlinear relationship, such as parabolic or exponential relationships. Therefore, Pearson correlations were performed. Statistically significant moderate correlation was found between total OBQ 11 scores and total FQOL-2006 scores (r = 0.523, n = 89, p = .001) as well as total OBQ 11 scores and global FQOL-2006 scores (r = 0.565, n = 89, p = .001) among the group of PCWD. However, the correlations between the OBQ 11 scores and total FQOL-2006 scores (r = 0.476, n = 89, p = .001] and total OBQ 11 scores and global FQOL-2006 scores (r = 0.308, n = 89, p = .003) were weak but significant among PTDC. The scatter plots are shown in Figures 4 and 5.

Figure 4

Scatter Plots for PTDC

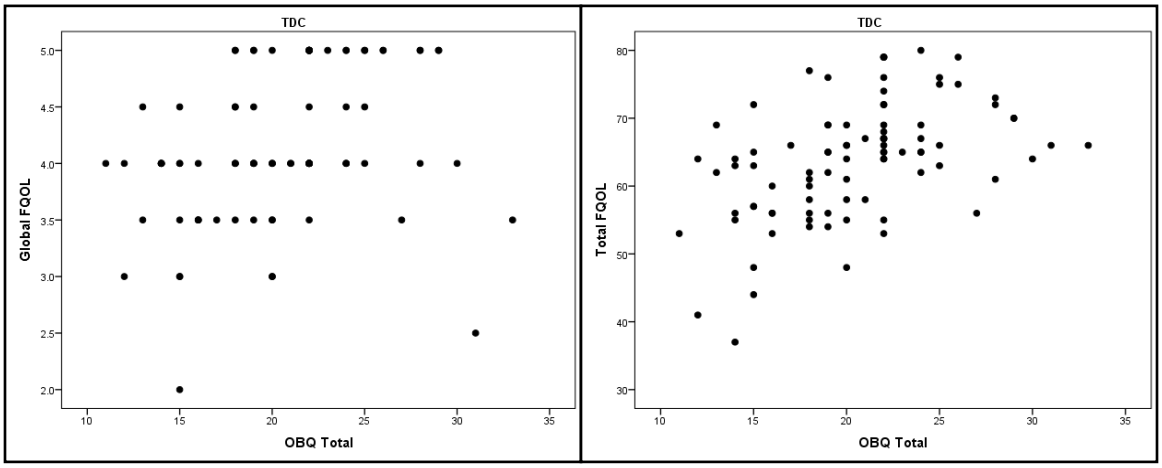
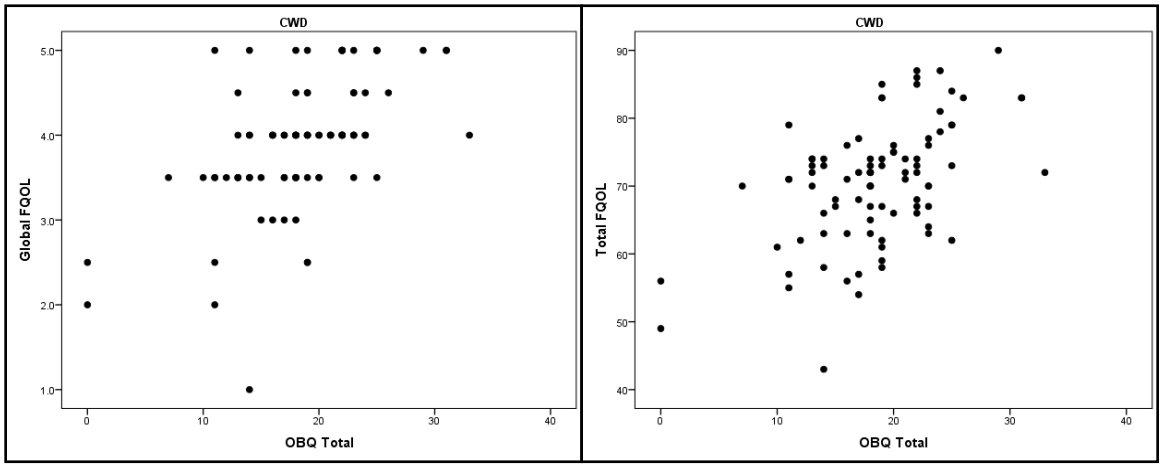


Figure 5

Scatter Plots for PCWD



Regression Analysis

Regression analysis was performed consistent with the steps suggested by Kellar et al. (2013) to verify the third hypothesis of the dissertation study. Alpha level was kept at .05. There were 17 potential predictor variables to start with. The variable marital status had extremely low variance in responses, and hence it was dropped from analysis. Among the remaining 16 predictors, eight variables were significantly associated with OBQ 11 scores and another two came close to the significance level. Two variables were correlated with each other strongly, and hence they were combined, which left nine variables to be included in the multiple regression models. A multiple linear regression model with total OBQ 11 scores and a logistic regression model by categorizing OBQ 11 scores as high/low based on median formed. Details are discussed below.

Bivariate Analysis

Sixteen variables were considered initially for the regression analysis. Bivariate regression analysis was conducted for each of these variables with total OBQ 11 scores. The results are shown in Table 17. Out of these 16 variables, eight variables were found to be

correlated with OBQ 11 total scores at a significance level of 5%. Even though the correlations were significant, the strength of the relations (capital beta) was not strong, ranging between 0.174 and 0.227. Two more variables (sex and satisfaction with care) came close to the .05 significance level.

Table 14

Bivariate Regression Analysis for Total OBQ 11 Scores

Name of the variable	*B*	*SE*	*Beta*	*t*	*Sig*
PTDC/PCWD	-1.865	0.777	-0.178	-2.4	0.017*
Age	0.844	0.605	0.104	1.394	0.165
Sex	-1.554	0.791	-0.146	-1.964	0.051
Education					
Nationality	0.855	0.364	0.174	2.348	0.02*
Employment	-0.243	0.868	-0.021	-0.28	0.78
Number of children	-0.173	0.296	-0.044	-0.587	0.558
Number of children less than 5 years age	-1.477	0.479	-0.227	-3.084	0.002*
Income	0.381	0.445	0.065	0.855	0.394
Role satisfaction	0.103	0.03	0.252	3.45	0.001*
Spousal support	1.151	0.362	0.233	3.175	0.002*
Family support in childcare	1.007	0.44	0.17	2.286	0.023*
Family support in housework	1.356	0.441	0.227	3.079	0.002*
Presence of paid help	-0.44	0.503	-0.066	-0.874	0.383
Difficulty finding help	0.864	0.353	0.184	2.45	0.015*
Satisfaction with care	0.702	0.39	0.136	1.8	0.074

Note. PTDC-Parents of typically developing children; PCWD-Parents of children with disabilities. *significant at 5% level of significance (n = 178).

Correlations between the Independent Variables

Correlations between the independent variables were conducted before building the regression model to find out if any two predictors were highly correlated. The correlation matrix of all predictor variables is shown in Table 15.

Table 15

Correlation Matrix for Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	r (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*R* (p)	*R* (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*r* (p)	*R* (p)
1	1.000	.027 (.365)	-.092 (.119)	-.024 (.378)	.033 (.335)	-.056 (.235)	.121 (.060)	.297 (.000)	-.161 (.019)	.020 (.398)	.027 (.363)	-.278 (.000)	-.313 (.000)	-.073 (.173)	-.087 (.132)	.290 (.000)
2	.027 (.365)	1.000 .	-.360 (.000)	.046 (.277)	.060 (.219)	-.299 (.000)	.317 (.000)	-.244 (.001)	.138 (.038)	(.060 (.222)	.202 (.004)	-.103 (.093)	-.017 (.412)	-.052 (.252)	-.026 (.369)	.002 (.489)
3	-.092 (.119)	-.360 .000	1.000 .	-.016 (.418	-.118 (.064)	.476 (.000)	-.128 (.049)	.048 (.269)	-.062 (.214)	-.052 (.251)	-.461 (.000)	.047 (.275)	.055 (.241)	.072 (.177)	.070 (.186)	-.069 (.189)
4	-.024 (.378)	.046 .277	-.016 (.418)	1.000 .	.189 (.007)	.018 (.410)	-.320 (.000)	-.154 (.024)	-.095 (.111)	.146 (.030)	.083 (.144)	.063 (.210)	-.019 (.402)	-.032 (.342)	.070 (.184)	.047 (.274)
5	.033 (.335)	.060 .219	-.118 (.064)	.189 (.007)	1.000 .	-.067 (.195)	-.030 (.349)	.066 (.197)	.067 (.195)	.048 (.270)	.106 (.086)	.005 (.472)	.045 (.280)	.027 (.365)	.025 (.372)	.140 (.036)
6	-.056 (.235)	-.299 (.000)	.476 (.000)	.018 (.410)	-.067 (.195)	1.000 .	-.098 (.103)	.092 (.119)	-.255 (.000)	.057 (.231)	-.209 (.003)	-.070 (.185)	-.080 (.151)	-.226 (.002)	.053 (.247)	-.144 (.031)
7	.121 (.060)	.317 (.000)	-.128 (.049)	-.320 (.000)	-.030 (.349)	-.098 (.103)	1.000 .	.285 (.000)	.165 (.016)	.085 (.138)	.142 (.034)	-.115 (.069)	-.017 (.414)	.125 (.054)	-.080 (.151)	.026 (.372)
8	.297 (.000)	-.244 (.001)	.048 (.269)	-.154 (.024)	.066 (.197)	.092 (.119)	.285 (.000)	1.000 .	-.033 (.334)	.037 (.317)	.087 (.133)	-.006 (.470)	-.032 (.343)	.036 (.321)	-.046 (.279)	.222 (.002)
9	-.161 (.019)	.138 (.038)	-.062 (.214)	-.095 (.111)	.067 (.195)	-.255 (.000)	.165 (.016)	-.033 (.334)	1.000 .	-.004 (.477)	.086 (.134)	.286 (.000)	.266 (.000)	.447 (.000)	-.125 (.053)	-.036 (.322)
10	.020 (.398)	.060 (.222)	-.052 (.251)	.146 (.030)	.048 (.270)	.057 (.231)	.085 (.138)	.037 (.317)	-.004 (.477)	1.000 .	.217 (.002)	.071 (.180)	.051 (.256)	-.186 (.008)	.055 (.242)	.092 (.119)
11	.027 (.363)	.202 (.004)	-.461 (.000)	.083 (.144)	.106 (.086)	-.209 (.003)	.142 (.034)	.087 (.133)	.086 (.134)	.217 (.002)	1.000 .	.062 (.212)	.070 (.183)	-.120 (.062)	-.180 (.010)	.080 (.151)
12	-.278 (.000)	-.103 (.093)	.047 (.275)	.063 (.210)	.005 (.472)	-.070 (.185)	-.115 (.069)	-.006 (.470)	.286 (.000)	.071 (.180)	.062 (.212)	1.000 .	.726* (.000)	.251 (.001)	.052 (.251)	-.021 (.396)
13	-.313 (.000)	-.017 (.412)	.055 (.241)	-.019 (.402)	.045 (.280)	-.080 (.151)	-.017 (.414)	-.032 (.343)	.266 (.000)	.051 (.256)	.070 (.183)	.726* (.000)	1.000 .	.232 (.001)	.113 (.073)	-.014 (.428)
14	-.073 (.173)	-.052 (.252)	.072 (.177)	-.032 (.342)	.027 (.365)	-.226 (.002)	.125 (.054)	.036 (.321)	.447 (.000)	-.186 (.008)	-.120 (.062)	.251 (.001)	.232 (.001)	1.000 .	.103 (.093)	-.071 (.180)
15	-.087 (.132)	-.026 (.369)	.070 (.186)	.070 (.184)	.025 (.372)	.053 (.247)	-.080 (.151)	-.046 (.279)	-.125 (.053)	.055 (.242)	-.180 (.010)	.052 (.251)	.113 (.073)	.103 .093)	1.000 .	-.049 (.264)
16	.290 (.000)	.002 (.489)	-.069 (.189)	.047 (.274)	.140 (.036)	-.144 (.031)	.026 (.372)	.222 (.002)	-.036 (.322)	.092 (.119)	.080 (.151)	-.021 (.396)	-.014 (.428)	-(.071 .180)	-.049 (.264)	1.000 .

Note. 1. PTDC/PCWD. 2. Age. 3. Sex. 4. Nationality. 5. Education. 6. Employment. 7. Number of children. 8. Number of children less than 5 years age. 9. Income. 10. Role satisfaction. 11. Spousal support. 12. Family support in childcare. 13. Family support in housework. 14. Availability of paid help. 15. Difficulty obtaining help. 16. Satisfaction with health care.
*$r > .70$.

Even though many predictor variables were significantly correlated with each other, only family support in childcare and family support in housework had a strong relationship with a Pearson value of 0.726. Hence, these two variables were combined into one single binary variable called family support. The responses “yes” and “to some extent” for any of the two questions probing family support in childcare and family support in housework was coded as “yes” and participants who reported in the negative to both the questions were coded as “no” in the new variable.

Multiple Linear Regression Model

The multiple regression model was built with all the seven variables that were found to be significantly correlated with OBQ 11 scores in the bivariate analysis and the two variables that came close to significance at 95%. The data fitted well and the model was statistically significant, F (9, 159) = 6.434, $p < .001$, and accounted for approximately 27% of the variance of total OBQ 11 scores (R^2 = .267, Adjusted R^2 = .225). The raw and standardized regression coefficients of the predictors together with their correlations with OBQ 11 scores, their squared semi-partial correlations, and their structure coefficients are shown in Table 16.

Table 16

Multiple Linear Regression Results

Model	B	SE-b	Beta	Pearson r	sr^2	Structure coefficient
Constant	17.588	3.634				
PTDC/PCWD*	-1.671	.821	-.162	-.213	.025	.42
Nationality	.416	.344	.085	.198	.009	.38
Number of children less than 5 years*	-1.215	.469	-.188	-.221	.040	.43
Role satisfaction*	.081	.030	.193	.255	.045	.49
Spousal support*	.904	.383	.187	.242	.033	.47
Difficulty finding help*	.728	.333	.151	.165	.029	.32
Satisfaction with health care*	.827	.361	.165	.108	.032	.21
Family support	1.447	.810	.135	.221	.019	.43
Sex	-.545	.813	-.052	-.129	.002	.25

Note. The dependent variable was occupational balance. PTDC parents of typically developing children. PCWD parents of children with disabilities. Sr^2 is the squared semi-partial correlation. R^2 = .267, Adjusted R^2 = .225, * $p < .05$.

The predictive power of the model was low although statistically significant, accounting for only 27% of variance in OBQ 11 scores. The most contributing variable in the model was role satisfaction with standardized beta = 0.193. The coefficient (unstandardized beta) for this variable was 0.081, which means that for an increase in role satisfaction by 1% causes increase in OBQ 11 score by .081 times, meaning to have an improvement in OBQ 11 by one score role satisfaction must be increased by 12%. The next important variable in the model was the number of children under 5 years of age. The negative sign of the coefficient (-.188) shows that this variable is negatively related to OBQ 11 score. One more child of age below age 5 in the family decreased the OBQ 11 score by 1.215 points. Level of spousal support was equally important in the model with a coefficient of .187. An increase in the level of spousal support by one unit caused increased the OBQ 11 score close to one point. Presence of a child with disability in the family decreased the OBQ 11 score by 1.671 points. Difficulty finding help and satisfaction with health care was also found to be significant predictors in the model. The low structure

coefficients indicated that none of the variables were strong indicators of the underlying latent construct described by the model.

Logistic Regression Model

Logistic regression was performed on the same nine variables by categorizing total OBQ 11 scores as high and low using the median. Scores less than or equal to the median (*Mdn* = 19) were considered low, and above the median was high. The data fitted well, and the model was found to be statistically significant $X^2(11, N = 169) = 41.876$, $p < .001$. The Nagelkerke pseudo R^2 indicated that the model accounted for approximately 29% of the total variance. The model classified 69% of the low OBQ 11 scores correctly, and 67% of the high OBQ 11 scores correctly. Overall, 68.4% of the prediction was correct.

Table 17 presents the partial regression coefficients, the Wald test, odds ratio (Exp[B]), and 95% confidence intervals for odds ratios for each predictor. Level of spousal support and difficulty finding help were the only significant predictors with the presence of child with disability coming close to the significance level of 95%. PCWD were approximately twice (CI = .972, 4.914) more likely to have low OB. For each point increase in level of spousal support and difficulty finding help, there was 1.842- and 1.486-times greater likelihood of reporting high OB.

Table 17

Logistic Regression Results

Variables	*B*	*SE-b*	*Wald*	*df*	*Sig*	*Exp(B)*	95% CI for *Exp(B)*	
							Lower	Upper
Presence of PTDC	.782	.414	3.573	1	.059	2.185	.972	4.914
No of children less than 5 years age	-.345	.239	2.093	1	.148	.708	.443	1.130
Role satisfaction	.025	.015	2.668	1	.102	1.025	.995	1.056
Spousal support	.611	.229	7.096	1	.008	1.842	1.175	2.888
Difficulty finding help	.396	.174	5.173	1	.023	1.486	1.056	2.091
Nationality–Others			1.991	3	.574			
Nationality–MENA	-.555	.595	.871	1	.351	.574	.179	1.841
Nationality–Filipino	-.667	.655	1.036	1	.309	.513	.142	1.854
Nationality–South Asia	-.141	.589	.057	1	.811	.868	.274	2.755
Family support–Yes	-.685	.403	2.893	1	.089	.504	.229	1.110
Sex–Male	.305	.408	.557	1	.455	1.356	.610	3.016
Satisfaction with care	.340	.186	3.356	1	.067	1.405	.977	2.021
Constant	-6.618	1.898	12.156	1	.000	.001		

Note. The dependent variable was occupational balance with high occupational balance as the target category and low occupational balance as the reference category.
Nagelkerke R^2=.293

Summary of the Chapter

In this chapter, the results of statistical analyses connected to the appropriate hypothesis testing were presented. There was a statistically significant difference in the mean OBQ 11 scores between PCWD and PTDC in the sample. Likewise, there was a statistically significant correlation between the OBQ 11 and FQOL-2006 scores. Regression analyses showed that the personal factors included in the dissertation study were able to explain approximately 22% variance in OBQ 11 scores. Interpretation of these results in connection with previous literature will be presented in the next chapter.

Chapter 5: Discussion

Introduction to the Chapter

The aim of the dissertation study was to compare OB among PCWD and PTDC, to identify the predictors of OB, and to find the association between OB and FQOL. The review of literature surrounding OB and PCWD, methodology, and results were discussed in earlier chapters. In this chapter, the results are discussed in comparison with earlier studies.

Impact of COVID-19 on the Results

Before the results could be discussed further, the timing of the dissertation study needs to be acknowledged to make comparisons with previous studies reasonable. The data collection was done during the global COVID-19 pandemic. Even though the data collection was done between November 2020 to January 2021 when Qatar had returned to a near-normal state following lifting of almost all internal movement restrictions, some precautionary measures, such as compulsory quarantine following international travel, and use of face masks, in public and social distancing were still in place. Even though these restrictions affected everyone uniformly, it is possible that PCWD, being a vulnerable group, might have felt the consequences differently. Despite these contextual oddities, the findings from the dissertation study are quite significant.

Discussion and Interpretation of Results

In this dissertation study, the mean OBQ 11 scores for PCWD living in Qatar differed significantly from PTDC. The difference in the means of OBQ 11 from the sample is 1.86 and this difference was statistically significant. Based on the confidence intervals, these differences can be as low as 0.3 or as high as 3.4. PTDC and PCWD in this sample differed on level of family income and presence of children less than the age of 5. The PCWD group had 17 (19%) more participants with children below the age of 5 than the group of parents of PTDC. For the

family income, there were more participants in the PCWD group, having less income (16% more reported income less than 10000 Qatari riyals). Because family income was not found to be associated with OBQ 11 scores, the scores could be overlooked. However, presence of children less than the age of 5 was correlated with OBQ 11 scores, r (176) = .28, p = .002. These differences must be taken into consideration while interpreting the results of the dissertation study.

Even though the mean difference in OBQ 11 scores between PCWD and PTDC was statistically significant, the actual difference in means was only 1.86 (on a scale ranging from 0 to 33), and the mean OBQ 11 scores of PCWD was 18.53, slightly above the median cutoff. Taken together, PCWD in the sample do not seem to experience occupational imbalance to a degree that is clinically meaningful, which could be because the children with disability in the sample were of younger age (M = 4.5, SD = 2.47), and it is reasonable to assume that as the age of the child increases, the caregiving burden of children with disability increases while that of typically developing children decreases. Overall, the implication of the findings is that having a child with disability puts the parents at risk of experiencing lower OB, but further studies on parents who have older children with disabilities is essential to make inferences on the magnitude of differences in OB.

Moreover, statistically significant moderate association was found between OBQ 11 scores and FQOL-2006 scores among PCWD in the sample. In comparison, the correlation between OBQ 11 and FQOL-2006 was weaker among PTDC, which makes it important to address OB among PCWD because for PCWD, low OB could affect their FQOL to a greater extent compared with PTDC.

The results from regression analyses showed that some of the personal factors, such as role satisfaction, spousal support, and presence of children below 5 years of age, difficulty finding help, and satisfaction with care, in combination with presence of a child with disability could significantly predict a quarter of the portion of OB. Role satisfaction, spousal support and satisfaction with health care could be considered as protective factors. Therefore, OTs working among PCWD could focus on enhancing these factors to facilitate OB. Difficulty obtaining help could be considered as a risk factor for experiencing OB. Factors, such as age, gender, educational status, nationality, employment status, number of children, income, family support and presence of paid help, were not significant in predicting OB in the multivariate context.

Literature Review

This dissertation study is the first quantitative study for the investigator to explore the difference in OB between PCWD and PTDC. There are many indications from qualitative studies that OB is affected among PCWD due to the burden of caregiving responsibilities (Hodgetts et al., 2014; Mcguire et al., 2004; Stein et al., 2011). However, no comparison studies were found in the literature distinguishing OB between PCWD and PTDC. This investigator adds quantitative evidence to the fact that PCWD report lower OB compared with parents of PTDC.

The secondary aim of the dissertation study was to analyze the associations between OB and FQOL. No previous researchers had examined the relationship between OB and FQOL. Although OB is individualistic, the process of creating OB for oneself can affect others in the family (Wagman & Håkansson, 2019, Dhas & Wagman, 2020). Therefore, it is important to examine the relation between one’s perception of OB and one’s perception of FQOL. In this dissertation study, weak to moderate but statistically significant associations were found between OB and FQOL. The strength of the relationship was greater among PCWD compared with

PTDC. The investigator found that these findings strengthen the link between OB and health and wellbeing. Other studies had shown associations between OB and other health indicators, such as life satisfaction, overall health and well-being, and reduced stress levels (Håkansson & Ahlborg, 2017; Håkansson et al., 2009; Wagman et al., 2020; Wagman & Håkansson, 2014; Wilcock et al., 1997; Yu et al., 2018). In a study with older adults, Park et al. (2020) showed that subjective health indicators, such as quality of life, life satisfaction, stress, and leisure satisfaction, could be improved by improving OB. Based on the associations between OB and FQOL found in this dissertation study, OB could be possibly used as a target for intervention in order to improve FQOL among parents.

Various insights were gained from the multivariate regression analysis. Firstly, the regression model helped to examine the relationship of OB with the set of variables considered as personal factors contributing to OB. Like previous studies (Wagman & Håkansson., 2014a; Yu et al, 2018), this dissertation study also did not show any associations between age, gender, and educational status with OB. Borgh et al. (2018) had reported that fathers experience higher OB than the mothers, but such differences were not found in this dissertation study. In addition, nationality, employment status, number of children, family income, family support (other than spouse), and presence of paid help were found not to be significant in the multivariate context. Therefore, presence of a child with disability in the family, presence of children below 5 years of age, role satisfaction, spousal support, difficulty finding help, and satisfaction with care were the only significant personal factors of OB in this dissertation study. Yet, none of these factors had a strong or moderate association with OBQ 11 scores. This implication of the finding is that all these factors, including role satisfaction can only be considered as a contributing factor and not a component of OB as suggested by Wada et al. (2010).

The regression model, although statistically significant, had less predictive power, explaining only 27% variance in OBQ scores, which points to the fact that there are other important factors related to the perception of occupations and environment that could not be measured in the dissertation study has a key role in the perception of OB. Qualitative studies about OB among people who experienced significant changes in physical abilities and occupational opportunities following disabling health conditions (Lund et al., 2015; Stamm et al., 2009) and retirement (Jonsson et al., 2000; Pettican & Prior, 2011) show that adverse events alter the occupational characteristics of daily occupations and thus OB. The suggestion of these findings is that some occupational factors could effectively moderate the effects of adverse circumstances on the perception of OB. Having children with disability in the family could have an adverse effect on OB due to the demands of the caregiving role, but certain occupational factors if present could effectively negate these adverse effects, which was one of the initial hypotheses, but it was withdrawn due to feasibility issues related to data collection of occupational variables.

Finally, the dissertation study was used to identify targets of OT intervention. Among these nine variables selected through bivariate analyses, role satisfaction was the strongest predictor (β = .193), which is important to OTs because OTs can positively influence OB for parents by working on their roles, which is an aspect of OT domain (Moyers 2005). In the dissertation study, role satisfaction scores were calculated by averaging the percentage scores on level of satisfaction in different roles identified by the participant. In the regression analyses, it was found that a 13-point increase in percentage scores of role satisfaction can bring about a unit change in OBQ 11 scores. It was observed that a few participants in the sample had role satisfaction percentage score below 50%. If their role satisfaction could be improved by 40%,

their OBQ 11 scores are predicted to increase by 4 points, which is quite significant clinically. However, generalization of these findings must be done with caution as the method used to estimate role satisfaction in this dissertation study has not been validated. Spousal support was another factor that was found to be significantly associated with OB in this dissertation study, which could be a target for OT interventions. Håkansson et al. (2019) found satisfaction with the division of domestic work to be associated with high OB in parent couples; OTs could focus on cooperation and mutual support between both parents to improve OB among parents.

In the logistic regression model created by categorizing OBQ 11 scores as high and low based on the median, only spousal support and difficulty obtaining help were found to be significant, although presence of child with disability came close to significance at .05 level. However, this underestimation could be due to the result of using median as a cut-off, leading to misclassifications as some individuals who perceived high OB being classified as having low OB or vice versa (Borgh et al., 2018).

Implications

Implications for Practice

Addressing OB among PCWD is an overlooked practice in pediatric OT services. The findings from the dissertation study show that PCWD are at risk of experiencing low OB. It presents quantitative evidence for the need to focus on OB-related issues among PCWD. Therefore, pediatric OTs could regularly screen PCWD who are attending their clinics for OB. Further exploration of role satisfaction and spousal support could be warranted for those reporting low OB followed by health promotional interventions in the forms of family education if deemed necessary, which could be a starting point for addressing OB in practice.

Implications for Future Research

Future research could be used to explore the role of occupational factors about the perception of OB. Time spent on different types of occupation is an important facet of OB, which was not explored in this dissertation study. Comparisons of time budget between PCWD and PTDC could further add to the evidence and practice recommendations for OTs addressing OB among parents. Some recommendations for improving compliance for time budget studies include the following:

- Recruiting parents who have the time to learn about the data collection method and to complete random surveys.
- Provision of monetary reinforcement for completion of surveys.
- Utilizations of trained research assistants for data collection and follow-up.
- Use of short surveys with simple response options that can be completed in less than a minute.

Limitations and Delimitations

The cross-sectional design and convenience sampling, which is not representative, affects the external validity of the dissertation study findings. Accessing the representative population and random sampling was extremely difficult and time consuming. Replication of studies on the same topic in the future could contribute to generalizability of findings.

The original intention of the dissertation research was to collect data for the occupational and day factors as well using experience sampling methodology. However, the experience from the pilot phase suggested that this method was not feasible. Less manpower resources made it not possible to provide intense follow-up that was required to prompt participants to provide the complete data. Future attempts will be made to collect these data on a smaller sample.

Identification and inclusion of all possible variables associated with the outcome variable is important in predictor studies because the predictive strength and relevance of one predictor could change significantly in the presence or absence of another predictor (Meyers et al., 2013). Even though all possible personal associated with OB found in the literature were included in the dissertation study, there could be other variables unknown to the investigator that could influence associations between variables.

The conceptualizations and measurement of OB employed in the dissertation study was based on the studies done from a western perspective. The understanding and interpretation of OB could be different among families living in Qatar. As there are no locally available measurement tools for OB, the OBQ 11 that was originally formulated in Swedish and translated to English is used. However, translation of OBQ 11 to Arabic was made following standard translation guidelines and data from cognitive debriefing and indicated conceptual equivalence.

Majority of participants in the dissertation study were work residents from 26 different countries. Only a small proportion (8.4% in the sample) was Qataris who are native citizens. Residents who live with their families in Qatar are usually from the middle- and upper-class with sufficient income to have family status. Therefore, members belonging to the low-income groups from these countries are less represented in the dissertation study.

The timing of the dissertation study during the global COVID-19 pandemic was beyond the control of the investigator. However, data collection was postponed until the first wave ended in Qatar, and life returned to near-normal by November 2020. Data collection was completed by February 2020 that was well before the restrictions due to the second wave beginning by end of March 2020. Even though these restrictions affected everyone uniformly, it is possible that

PCWD, being a risk group, might have felt the consequences differently affecting the validity of the findings.

Recommendations

OTs working among PCWD should regularly assess OB and address these issues in their routine practice in order to facilitate better FQOL.

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Appendix

General Information and Demographic Questionnaire

Demographic and General Information Survey

Thank you for participating in our research. Please take a moment to fill out the following form.

Demographic Information

1. Please indicate your age

☐ Less than 30 ☐ 30-40 ☐ 41-50 ☐ 51-60 ☐ 61-70 ☐ 71-80 ☐ More than 80

2. Please indicate your sex

☐ Male ☐ Female

3. Please indicate your nationality

☐ Qatari Non-Qatari: _____

4. Please indicate your educational status

☐ Higher secondary ☐ Diplomo ☐ Under graduate ☐ Postgraduate

5. Please indicate your marital status

☐ Married ☐ Separated ☐ Divorced ☐ Widowed

Work/Employment Information

1. Please indicate your employment status

☐ Governmental Job ☐ Private Job ☐ Self-employed ☐ Unemployed

If employed

Work time	☐ Full time	☐ Part time		
Work type	☐ Regular work	☐ Flexible work	☐ Shift work	
I can obtain flexibility in work arrangements to meet my caring responsibilities if needed?	☐ Strongly agree	☐ Agree	☐ Disagree	☐ Strongly disagree
Level of satisfaction of your current job	☐ Satisfied	☐ Fairly satisfied	☐ Fairly dissatisfied	☐ Dissatisfied

If unemployed

Has being a parent stopped you from seeking employment because of your caregiving responsibilities?	☐ Yes	☐ No

Home and Family Information

1. Details of children

	Gender	Age	Disability	Lives with you at home
Child 1	☐ Male ☐ Female		☐ Yes ☐ No	☐ Yes ☐ No
Child 2	☐ Male ☐ Female		☐ Yes ☐ No	☐ Yes ☐ No
Child 3	☐ Male ☐ Female		☐ Yes ☐ No	☐ Yes ☐ No
Child 4	☐ Male ☐ Female		☐ Yes ☐ No	☐ Yes ☐ No
Child 5	☐ Male ☐ Female		☐ Yes ☐ No	☐ Yes ☐ No

If you have a child with disability, please provide the following information

Child 1	Child 2	Child 3	Diagnosis
☐	☐	☐	Developmental Delay
☐	☐	☐	Downs Syndrome
☐	☐	☐	Cerebral Palsy
☐	☐	☐	Autism Spectrum Disorder
☐	☐	☐	Learning Disability
☐	☐	☐	Others _____
☐	☐	☐	Others _____

Child 1	Child 2	Child 3	Diagnosis
☐	☐	☐	Does not require assistance for self-care activities
☐	☐	☐	Requires assistance for only some self-care activities
☐	☐	☐	Requires assistance for most but not all self-care activities
☐	☐	☐	Requires assistance for almost all self-care activities

Child 1	Child 2	Child 3	Diagnosis
☐	☐	☐	Able to communicate about a wide variety of topics in a meaningful way
☐	☐	☐	Able to communicate within a limited range of topics in a meaningful way
☐	☐	☐	Able to communicate needs, wants, and some ideas in a meaningful way
☐	☐	☐	Able to communicate basic needs and wants
☐	☐	☐	Very little meaningful communication

2. Please indicate your family monthly income (both parents together)

☐ Less than 5000 Qatari Riyals
☐ 5000 – 10,000 Qatari Riyals
☐ 10, 000 – 20,000 Qatari Riyals
☐ 20,000 – 30,000 Qatari Riyals
☐ 30, 000 – 40, 000 Qatari Riyals
☐ 40,000 – 50,000 Qatari Riyals
☐ More than 50,000 Qatari Riyals

3. Please indicate the roles that you are currently identify with

	Role	Level of satisfaction
☐	Student	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Worker	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Volunteer	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Caregiver	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Home Maintainer	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Friend	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Family member	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Religious participant	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much
☐	Other_____	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Not at all Very much

Caregiving support

1. Please rate the helpfulness of your partner in in child-care related activities

☐ Not at all helpful	☐	☐	☐	☐ Extremely helpful

2. Does other members in the family assist you in caring for your child

☐ Yes	☐ To some extent	☐ No

3. Do other members in the family assist you in in household chores

☐ Yes	☐ To some extent	☐ No

4. Availability of paid help

☐ More than one full time maid	☐ One full time maid	☐ Few hours a day	☐ Occasionally	☐ Never

5. It is hard to find a reliable person to take care of my child

☐ Very easy	☐	☐	☐	☐ Extremely hard

Satisfaction with health care services.

1. Overall, how satisfied are you with the quality of care received from health and rehabilitation services in Qatar?

☐ Very satisfied	☐	☐	☐	☐ Very dissatisfied