The Use of Kumpfer's Resilience Framework in Understanding the Breastfeeding Experience of Employed Mothers After Returning to Work: a Qualitative Study in China

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Abstract

Background: The increasing numbers of women in the workforce is an inevitable trend in China. More and more employed women stop breastfeeding because of working stressors. However, there are also many mothers overcoming many challenges to insist on breastfeeding after returning to work. Their individual experience of breastfeeding may provide a new insight to promote and support breastfeeding on employed mothers. This study sought to understand mothers' experience with insisting on breastfeeding after returning to work based on Kumpfer's Resilience Framework in Chinese context.

Methods: This qualitative study was designed with semi-structured interviews. Purposive sampling and snowball sampling was employed to recruit 13 full-time working mothers with a stable job in the public sector who continued to breastfeed for 1 month or more after returning to work in Haikou, Hainan Province, China. Interviews were conducted from January to March 2020 to capture participants' experiences of breastfeed after returning to work. Grounded theory and Kumpfer's Resilience Framework were used to analyze data via a systematic and iterative process.

Results: Employed mothers built resilience while continuing to breastfeed after returning to work. The core concept was "dynamic interaction". Other categories were the background and explanation of this phenomenon. For working mothers who continued to breastfeed, resilience involved "dynamic interaction", which started from "experiencing stressors" and "obtaining support", two factors that interacted with the individual to "stimulate resilience", which led to "behavioral resilience" during the ongoing dynamic interaction between resilience and environmental factors and ultimately led to three different "weaning outcomes", including natural weaning, active weaning, and forced weaning.

Conclusions: This study identified the framework of resilience in mothers who insisted on breastfeeding after returning to work based on Kumpfer's Resilience Framework. It may help midwives assess stressors and supports for employed mothers to continue to breastfeed after returning to work, determine the process by which resilience traits are stimulated in employed mothers, identify different phases of behavioral resilience, provide targeted interventions, and then promote favorable weaning outcomes.

Background

Promoting breastfeeding is currently a major effort worldwide. The World Health Organization(WHO) recommends that exclusive breastfeeding is the best feeding method for infants up to 6 months after birth and suggests that mothers continue to breastfeed until their children are 2 years old or more [1]. The current situation of breastfeeding in China is less than satisfactory. The 2019 Report on Relevant Factors of Breastfeeding from the China Development Research Foundation(CDRF) shows that the rates are 29.2% for exclusive breastfeeding, 31.0% for breastfeeding with the addition of water or juice only, and 33.5% for mixed feeding during the first 6 months after birth in China. The rate of any breastfeeding decreases to 66.5% when the infant reaches 11 months old. Among employed women, returning to work

is one of the main reasons for the decline in breastfeeding after 6 months. This is a common challenge for working mothers around the world [2, 3].

In 2019 in China, a developing country, women accounted for 43.7% of the labor force, the highest percentage in the Asia-Pacific region [4]. According to the new Chinese maternity leave policy in 2012, most employed women returned to work 4 to 6 months after childbirth [5]. However, they need to handle both work and breastfeeding and face personal, institutional, and social pressure and challenges. For example, they face challenges such as an inflexible work schedule, a restrictive work environment, short maternity leave, and a lack of special maternity rooms, private milk-expressing space, and milk-expressing time in the workplace [6, 7]. Some women make a personal decision to stop breastfeeding after childbirth due to a lack of knowledge on the topic. Working stressors, peer pressure and lack of family support are other reasons working women stop breastfeeding [8, 9]. A study in Shanghai, China, shows that the rate of breastfeeding is as low as 17.5% in employed mothers after 12 months [10]. Therefore, attention may be paid to breastfeeding among employed mothers in economically developed areas of China.

Although working stressors and challenges cause more and more employed mothers to stop breastfeeding in China, the large national survey conducted by CDRF shows that there are still 81.3% of employed women continue to breastfeed by going home to breastfeed at work, taking pumped breast milk home, breastfeeding at the workplace, and breastfeeding at home after work [2], suggesting that they have overcome many challenges and are resilient despite adversity [11]. How do these employed mothers overcome the challenges? What is their experience with insisting on breastfeeding after returning to work? No studies have been conducted to answer these questions. In this study, we used Kumpfer's Resilience Framework to understand the experience of mothers who insisting on breastfeeding after returning to work in order to answer these questions.

Kumpfer's Resilience Framework focuses on the dynamic interaction between environmental factors and individuals. It holds that stressors or challenges are stimuli for resilience. The external stimulus breaks the previous balance and leads to interactions between the environment and the individual and between the individual and personal choice, which builds, rebuilds, and strengthens personal resilience. Finally, three outcomes appear such as resilience reconstruction, adaptation and maladaptive reconstruction [12, 13]. This framework was first used to describe resilience building in adversity in children and adolescents [14] and was later used in experiential research in caregivers of disabled elderly people [15] and resilience experiential research in patients with special conditions such as cancer and their families [16, 17]. This is the first study to use Kumpfer's Resilience Framework to learn about resilience building in employed mothers who continue to breastfeed after returning to work despite challenges. This study aims to learn about mothers' experience with insisting on breastfeeding after returning to work from the perspective of resilience and to understand how they build resilience in this process, in order to provide new insights and ideas for related studies to promote breastfeeding among employed women in China.

Methods

Study Design

This was a qualitative study. Employed mothers who continued to breastfeed for 1 month or more participated in a semi-structured interview to talk about their experience, challenges and stressors, and efforts to overcome the challenges. We used Kumpfer's Resilience Framework as the theoretical framework for the study design and data analysis to help us understand how employed women continued to breastfeed despite challenges.

Study setting and participants

This study was conducted in Haikou, the capital city of Hainan Province, China. Haikou, a developing island city, is located at the southernmost tip of China. As in other cities in China, as the female labor force participation rate has risen, more and more local women of childbearing potential are working, especially in the public sector with job security [18,19]. In this study, we used purposive sampling and snowball sampling to recruit full-time working mothers with a stable job in the public sector who continued to breastfeed for 1 month or more after returning to work and agreed to participate in the interview. The investigators considered the duration of breastfeeding after returning to work and the occupation of each working mother to ensure the adequacy and diversity of the information the participants would give. The sample size was set based on information saturation.

Data collection

The interview outline was developed based on Kumpfer's Resilience Framework and on the study purpose. The topics included basic information; the mothers' experience of breastfeeding after returning to work; individual difficulties and stressors in balancing personal life, breastfeeding, and work; stress responses and management strategies; and efforts to overcome challenges. Most interview questions were open-ended. Two members of the study team conducted semi-structured interviews from January to March 2020 to collect data. The appointment was set up via telephone, and the location was selected by the participant. Thirteen participants were interviewed in their own familiar settings (bedroom, office, conference room at work, etc.). Each interview lasted 40 to 60 minutes. Interview recordings were compiled and transcribed and then imported into Excel by the interviewer soon after each interview. A copy of the text was provided to the interviewee to ensure accuracy.

Data analysis

In this study, we combined grounded theory and the theoretical framework and collected and analyzed data via a systematic and iterative process. To ensure the reliability of the analysis, the data analysis started from the time of data collection, and each transcribed original text was manually analyzed in Excel. Two members of the study team independently reviewed the data to identify any open code. During axial and selective coding, the study team met regularly to discuss and develop axial codes through continuous comparison to identify the core categories, which, along with Kumpfer's Resilience Framework, were used to finalize the new concept and theme framework for characterizing resilience

among employed mothers who continued to breastfeed. Throughout the process, the study team supported the work by preparing ongoing memos and tables [20]. The study team also revised interview questions, developed topics, and monitored information saturation as needed until the end of data collection.

Ethics

This study was approved by the Ethics Committee of the Second Affiliated Hospital of Hainan Medical University in December 2019. A signed informed consent form was obtained before interview. The investigators maintained interview audio recordings, which were destroyed at the completion of data analysis. The information stored in the computer was password-protected.

Results

A total of 13 working mothers with different occupations, ages, educational levels, parities, times returning to work, and breastfeeding durations participated in this study. (Table 1)

The results show that mothers built resilience while continuing to breastfeed after returning to work. The core concept was "dynamic interaction". Other categories were the background and explanation of this phenomenon. For employed mothers who continued to breastfeed, resilience involved "dynamic interaction", which started from "experiencing stressors" and "obtaining support", two factors that interacted with the individual to "stimulate resilience", which led to "behavioral resilience" during the ongoing dynamic interaction between resilience and environmental factors and ultimately led to three different "weaning outcomes". Box 1 summarizes the main categories identified in this study and the elements of each category.

Table 1

Characteristics of mothers in the qualitative study

Mothers	Age (years)	Education level	Number of children in the time of interview	Time of returning to work after birth	Duration of breastfeeding	Occupation
1	35	Bachelor	2	6m	10m	Pediatric nurse
2	29	Master	1	1m	10m	Nurse intern
3	38	Bachelor	2	5m	13m 1st 18m 2nd	Policewoman
4	39	Bachelor	2	6m	14m	Maternity nurse
5	34	Associate	1	8m	14m	Mechanical Designer
6	31	Bachelor	1	6m	18m	Financial Accountant
7	32	Bachelor	2	4m	12m 1st 16m 2nd	Policewoman
8	42	Bachelor	2	1m	9m 1st 13m 2nd	Policewoman
9	35	Master	2	4m	18m	Policewoman
10	29	Master	1	7m	17m	University Teacher
11	38	Master	2	10m	11m 1st 16m 2nd	University Teacher
12	30	Bachelor	1	6m	15m	Primary School Teacher
13	39	Bachelor	2	6m	13m 1st 18m 2nd	Deputy Chief Physician
Note: The 'm' in the table refers to 'months'						

Box 1 Summary of the categories of the study

Dynamic interaction	Experiencing stressors	Personal pressure: dual role, relapse of old condition and dwindling of milk External pressure: family and social doubt, lack of spousal support, distance and economic pressure
	Obtaining support	Self-support: began to learn and confidence in milk production Family support: the importance of maternal grandmothers Workplace support: peer understanding, a reduced workload, and external support Role models: family members, colleagues, internet acquaintances
	Resilience building	Traits: tenacity, perseverance, and endurance Enhanced belief: "give the child the best" and "breastfeeding to ensure a healthy child" Deepened understanding of their roles: a heightened sense of responsibility and natural instincts and a closer mother–child bond
	Behavioral resilience	Willingness to change: "give up oneself" and began to learn new Self-adjustment: feeding methods adjustment, milk production adjustment and schedule adjustment
	Weaning outcomes	Natural weaning Active weaning Forced weaning

Experiencing stressors

For employed mothers, their social roles had changed. Being a working mother involved a myriad of new stressors and challenges, including personal and external stressors.

Personal stressors

Mothers must manage a workload while taking the time to express and store milk. The dual role, relapse of illness and dwindling of milk may lead to physical and mental exhaustion. A mother who was a nurse intern said:

"Work is busy, with many exams, and it takes long time spent to express milk.... I use an electric breast pump to express milk at work, which is time-consuming.... At 1 a.m., in early morning.... Do you know how tiring it is to breastfeed? I am very tired. It takes so much energy and time, which makes it difficult to focus on work." (TTY)

Prolonged physical and mental exhaustion caused some old conditions to relapse in some mothers, which may affect milk production and thus the willingness to continue to breastfeed.

"He is restless when hungry. After spending 2 to 3 months taking care of him around the clock, including several times at night, my cervical condition started to bother me again...." (XHZ)

"I have many stresses at work.... Milk production starts to dwindle over time, which affects my confidence and willingness to continue to breastfeed...." (LJM)

External stressors

For employed mothers, family and social doubt was the first external stressor, which caused mental stress and reflected the current lack of social support for breastfeeding in China.

"My mother-in-law often tells me that I do not produce enough milk and that my milk is water-like with too little nutrition. This causes me to doubt my ability to feed my child." (MRR)

"Sometimes when breastfeeding in public, I hear people talking about why such an 'old' child is still breastfeeding and why I am still not weaning my child from breastfeeding? I was very upset at these comments." (GD)

"My colleagues sometimes say, 'why are you still breastfeeding and not weaning? It affects your work.'" (LJM)

Lack of spousal support was another stressor. A mother said, "My husband often says that I know more about breastfeeding than he does, as if women should shoulder all the responsibilities in raising a child" (HHT). This attitude made working mothers feel "upset and angry" (HHT). It also reflected the traditional Chinese notion that "women should be responsible for raising children".

The distance between home and work and the economic status also posed challenges to working mothers:

"At the time, my home was far away from my workplace.... I personally breastfed my child. I was busy at work, while thinking about how to rush back home to breastfeed my child. The stress affected milk production, which was the biggest challenge." (MRR)

"Given the economic problems at home, returning to work was my only option." (XHZ)

Obtaining support

Working mothers faced stressors and challenges when continuing to breastfeed, but they were also inspired by personal, family, and workplace support and role models. The level of support varied with the individual conditions.

Self-support

Some mothers began to learn about breastfeeding through maternity check-up bulletin boards, brochures, and baby products starting when they were pregnant, which helped them to “understand more about breastfeeding” (LJM), “strengthen my determination to continue to breastfeed (XHZ)”, and “take action to continue to breastfeed despite being tired and even though it was time-consuming because of my desire to keep the child safe and well nourished” (TYY).

Confidence in milk production was the source of confidence and motivation for continuing to breastfeed among working mothers. “The key is having enough milk...” (TYY), and “good milk production gives me the confidence to insist on breastfeeding” (LJM).

Family support

Based on Chinese tradition, most infants are taken care of by elderly family members who live with the parents after the mother returns to work. The active participation, encouragement, and affirmation of family members help working mothers to manage stress and be confident about breastfeeding. In particular, female elders with childbearing experience can pass their breastfeeding experience to working mothers, which strengthens their confidence in continuing to breastfeed. This also reflects the Chinese culture of family and breastfeeding will pass on by generations.

“My mother and mother-in-law put aside their own family and life to support me.... I did not need to do anything except go to work and breastfeed.... They often made soups to help me produce milk.” (TYY)

“Whenever I talked to her [my mother] about weaning, she would tell me that it is not good for the development or health of my child.... (LJM)”

“I am confident. She [my mother] believes in me, giving me the confidence to insist on breastfeeding....” (GY)

Workplace support

Workplace support came from peer understanding, a reduced workload, and other external support, which mitigated the negative effect of the conflict between working and breastfeeding.

An employed mother who was a teacher mentioned:

“Whenever I was absent when they did roll-call...they understood, and my boss was fine with it too. My colleagues understood that I was busy, and they were encouraging and appreciating my efforts.” (GY)

A working mother who was a mechanical designer recalled:

“Unlike some other jobs that involve urgencies or emergencies, my job environment is stable...we rarely work overtime...with no particular stress.”

Two workplaces had refrigerators to store breast milk (XHZ, TYY), one woman got a one-hour breastfeeding break per day (GY), and one woman's workplace was close to home, all of which made it easier to go home to breastfeed (ZY2), made working mothers feel that their breastfeeding time was "sufficient" (GY), and made breastfeeding "simple" (XHZ).

Role models

Some working mothers looked to role models who continued to breastfeed for how to manage stressors and challenges and to become more confident about breastfeeding. These role models were family members, colleagues, or internet acquaintances.

"My sister-in-law breastfed for two years. I do not want to wean too early. I believe that I can...." (GY)

"A head nurse in our hospital breastfed for 18 months. And her children at the time were generally healthier... I admire her." (HHT)

"I followed the public account of the La Leche League International. Those children were 5 or 6 years old and were still breastfeeding. I admire that.... Whenever I have challenges, I search for what other mothers are doing, which is very helpful." (MRR)

Resilience building

Adversity inspires excellent personal qualities [21]. Employed mothers who insisting on breastfeeding after returning to work by managing stressors and obtaining support demonstrated tenacity, perseverance, and endurance, which strengthened their belief in breastfeeding and deepened their understanding of their roles, thereby building resilience.

Traits

Working mothers who continued to breastfeed demonstrated tenacity, perseverance, and endurance, which were closely related to their personal experience within their family and the personalities of their parents. When facing challenges and hardship, working mothers wanted to "persevere in whatever [they were] doing" (HHT).

"I had some challenges...during breastfeeding, but I was persistent...and resilient.... My mother taught me when I was little that no matter how difficult the situation is, I must persevere in whatever I am doing...." (YXL)

"Negative comments from others only serve to strengthen my belief and actions.... I am as stubborn as my dad, and I will persevere in whatever I want to do, regardless of whether others agree." (GD)

"I continued to breastfeed for the sake of my child.... I was working and needed to take care of sick elderly family members, but I persisted". (TYY)

Enhanced belief

Belief refers to the behavioral tendency of one's own ideas, thoughts, and awareness, which is demonstrated as strong and unwavering conviction and trust [22]. The instinct to "give the child the best" and the pursuit of "breastfeeding to ensure a healthy child" were strengthened among the working mothers by their breastfeeding knowledge and their mother–child interactions, along with personality traits such as tenacity, perseverance, and endurance.

"I knew before returning to work that breast milk is life-giving and...precious, just like our child...." (XHZ)

"Formula is a substitute, not a necessity. The nutritional value of formula is inferior to that of breast milk.... Breast milk is derived from *qi* and blood.... It is healthy...." (MRR)

"When I reunite with my child after work, his dependence on me reinforces that I am very important in his life, which strengthens my belief that I must give him the best." (GY)

"I tried to feed other food to my child, but she refused even when she was hungry... She wanted my milk... She looked so helpless, and I was determined...to keep going." (MRR)

Deepened understanding of their roles

The employed mothers faced the dual stresses of work and motherhood, but their children's dependence on them deepened their understanding of motherhood, which promoted personal growth, leading to a heightened sense of responsibility and natural instincts and a closer mother–child bond.

"After returning to work, my child was still waiting for my milk. Whenever I was back home from work, I felt that I had the obligation to take care of him... Regardless of what happens, I must leave early...and go home to breastfeed...." (MRR)

"Once I was used to work-related stress, breastfeeding became a habit, just like having meals.... It's a natural female instinct." (TYY)

"During breastfeeding, we looked at each other and time just flew. I enjoyed the experience, although it was hard sometimes." (YXL)

"I continued to breastfeed because I wanted to strengthen the mother–child bond.... I think it is difficult to guide and educate her when she gets older, if we do not develop basic intimacy between the two of us...." (LJM)

Behavioral resilience

For working mothers, resilience building was followed by behavior adjustment to manage stress in order to continue to breastfeed. This involved two phases, willingness to change and self-adjustment.

Willingness to change

Some participants who continued to breastfeed were willing to "give up oneself" (GY) to make time for breastfeeding. LJM recalled:

"... I gave up something, such as freedom...to have more time with my child...and for breastfeeding."
(LJM)

Some mothers began to learn new things from professionals, such as the causes of reduced milk production and how to improve milk production, so they could plan their breastfeeding times and take actions to improve milk production.

"...I attended an online training course.... It said that breast milk is rich in nutrition and immune factors.... It promotes mother-child bonding and improves the child's self-confidence and behavior.... I initially planned to breastfeed for 10 to 12 months. After the course, I decided to breastfeed longer...." (LJM) It also means the timely and available professional help may promote the mothers to "change" and then prolong the time of breastfeeding.

Self-adjustment

For some working mothers, self-adjustment is the manifestation of resilience in times of challenges. This includes the adjustment of feeding methods, milk production, and breastfeeding schedule. Some working mothers living far from their workplaces chose to express milk (TYY). Some had their family take their child to their workplace for breastfeeding (XHZ). Some simply adjusted their feeding methods.

"After returning to work, I expressed milk during the day. If I had time, I went back home to breastfeed my child at lunch time.... Once in the evening, once in the morning, that was enough...." (ZQ)

Some working mothers had problems with milk production, and they tried different methods to remedy the issue. XHZ and LJM tried herbs, YXL and HSJ increased their soup intake to improve milk production and confidence, and ZY1 consulted breastfeeding professionals.

In the case of any conflicts between work and breastfeeding, some working mothers talked to their bosses about a flexible work schedule. "I talked to my manager...he agreed that I may come to work at 9:00 a.m. (no later than 9:30 a.m.) ...for field work, I talked to my manager to see if someone else could stand in for me...." (LJM)

Weaning outcomes

As breastfeeding went on, working mothers continued to have new stresses as well as support. Their resilience continued to interact with environmental factors and led to new behavioral resilience to ensure continued breastfeeding. Finally, three weaning outcomes were identified such as natural weaning, active weaning, and forced weaning. The state and emotions of the mother and child varied between scenarios.

Natural weaning

These working mothers enjoyed breastfeeding and were happy about motherhood. They also believed that they met the physical and mental needs of their child after a long time of breastfeeding.

"I enjoyed breastfeeding.... I did it for 16 months before weaning naturally.... At the time of weaning, I believed that my child no longer needed my milk." (YXL)

"Milk preparation was not that hard or tiring. Weaning was natural, and I feel my child was satisfied and happy...." (ZQ)

Active weaning

As breastfeeding went on, some working mothers faced changes in workload. They wanted to resume a normal workload before breastfeeding and adopted active weaning after a time of breastfeeding. The mental needs of their child may or may not have been met.

"Work was getting busier, my child stopped gaining weight.... I had breastfed for 10 months and believed that breast milk was no longer enough to meet his needs. It was time to stop breastfeeding." (TYY)

"I wanted to devote myself to my work as soon as possible." (MRR)

"I planned to breastfeed for 12 months... Once the goal was achieved, it was time to stop breastfeeding, mission accomplished...." (HHT)

Some working mothers were "hesitant" about weaning (HHT), but they felt the stressors outweighed support. "Milk volume started to decline, nighttime was difficult, both my husband and I were tired, I decided it was time to stop breastfeeding.... Then my child was a little sick and caught a cold. I wanted to resume breastfeeding.... But my family disagreed. They said that I had stopped breastfeeding, why restart it?... My child liked to touch my nipples while sleeping. He may have unmet mental needs." (HHT)

Forced weaning

Some employed mothers continued to breastfeed for a long time and faced more stressors than support as well as forced weaning. In this case, both mother and child had unmet mental needs. For XHZ, her cervical condition worsened after returning to work, and her family opposed breastfeeding.

"You don't have milk for the child, and he is restless... It may be better off to use formula feeding instead of breastfeeding.... I had no choice but to wean him from breastfeeding.... After weaning, whenever he saw me, he just kept crying...and wanted me to hug him." (XHZ)

"Sometimes when we went out to play, we saw other children of a similar age.... I heard others comment about a child of 18 months old who was still breastfeeding.... I felt guilty...." (XHZ)

Dynamic interaction

In this study, the core category was "dynamic interaction", which formed the resilience framework for working mothers who continued to breastfeed based on Kumpfer's Resilience Framework. Employed mothers faced stressors and support, and their dynamic interaction with these environmental factors stimulated their inherent resilience traits, which continued to dynamically interact with the environmental factors, leading to behavioral resilience as well as three different weaning outcomes. (Figure 1)

Discussion

Stressors and support are environmental factors that working mothers face as they continue to breastfeed

Kumpfer's Resilience Framework states that stressors are the initiating factor for resilience building [10]. This study shows that employed mothers face dual roles, doubt, lack of support, relapsed medical conditions, childcare, inadequate milk volume, a long commute, and economic pressure, which are the initiating factors of their resilience building. Meanwhile, they gain support from themselves, their family, their workplace, and role models. A survey on breastfeeding support in working mothers in Shanghai showed that the factors that contribute to breastfeeding among working mothers includes adequate maternity leave and breastfeeding leave, special breastfeeding or milk-expressing rooms and refrigerators at the workplace, manager and peer support for breastfeeding, and a flexible work schedule. Obstacles include short maternity leave (< 4 months), long commute, inflexible work schedule, lack of a breastfeeding or milk-expressing room, lack of refrigerator for storing milk, and lack of manager and peer support for breastfeeding [23]. That survey focused on work-related factors that contributed to or interfered with breastfeeding among working mothers. This study more comprehensively covers personal, family, institutional, and social factors of breastfeeding [2]. It means breastfeeding is the complex social behaviors, and these factors are also considered environmental factors facing all working mothers worldwide during breastfeeding [3]. Specifically, most of the participants in this study highlight the significant supportive role of maternal grandmothers on their breastfeeding after returning to work, but it lacks of husbands' support. This is different from other studies which show that fathers have more positive attitudes on mother's breastfeeding than the maternal grandmother [24-25]. It reflects various social, cultural factors on breastfeeding of working mother and suggests that fathers may need more professional interventions about breastfeeding.

Kumpfer's Resilience Framework has been used in adolescents and cancer patients. Hua et al found that for adolescents, the single stressor of family poverty was the initiating factor for resilience [26]. Fan et al found that in general, cancer was the single initiating factor in cancer patients [27]. However, this study showed that mothers who continued to breastfeed after returning to work faced their dual role, childcare, doubt, lack of support, long commute, and economic pressure, all of which are personal and dynamic and may change over time. Therefore, stressors on mothers who insist on breastfeeding after returning to work are more complex.

The stimulation of resilience traits is the result of the dynamic interaction between the environmental factors and the individual

Kumpfer's resilience framework states that personal initiative, active stress management, and personal growth are the essence of resilience building [28]. These include cognitive, emotional, behavioral, mental, and physical ability and growth [13]. We found that working mothers faced stressors as well as enjoyed environmental support during breastfeeding, and both environmental factors played a role and continued to interact dynamically with working mothers to highlight their personal traits, strengthen their inner beliefs, and deepen their individual understanding of their roles, thereby building resilience.

However, unlike Kumpfer's original model of cognitive, emotional, behavioral, mental, and physical resilience traits, this study shows that for employed mothers who continue to breastfeed after returning to work, resilience traits are reflected as cognitive, emotional, and mental growth, which manifests as tenacity, perseverance, endurance, enhanced breastfeeding instinct, belief in breastfeeding, heightened sense of responsibility, strengthened instincts, and close mother–child bonding. However, there is no fitness or physical improvement on them. Maybe it is related to the different subjects. Kumpfer's framework was used in children and adolescents originally [14] but this study is targeted to working mothers who continue to breastfeed after returning to work. These findings reflect the unique nature of resilience among them.

Behavioral resilience is a process in which resilience traits and the environment continue to interact dynamically

Kumpfer's theoretical model states that as individuals interact with the environment to build resilience, they develop problem-solving skills to better manage environmental stressors, thereby further improving their stress management [13]. In this study, enhanced inner traits, belief in breastfeeding, and understanding of motherhood inspired working mothers to engage in a habit they deemed important or valuable [28] and motivated them to take actions to manage stress in order to continue breastfeeding [29]. There are two phases of behavioral resilience, willingness to change and self-adjustment. Behavioral resilience reinforces support and mitigates stressors, which contribute to a high-support, low-stress breastfeeding environment. This is consistent with the concept of Kumpfer's resilience framework. Moreover, our study found that some professional intervention in the phases may help the employed mothers to prolong the time of breastfeeding.

The process of behavioral resilience leads to three different weaning outcomes

According to Kumpfer's Resilience Framework, resilience traits continue to interact dynamically with the environment to enable ongoing self-adjustment, which ultimately leads to resilience reconstruction, adaptation, or maladaptive reconstruction [13]. These three resilience outcomes are consistent with the three weaning outcomes we mentioned in the results of this study.

Natural weaning is a type of resilience reconstruction. Resilience reconstruction is defined as a good interaction between individual resilience traits and the environment, resulting in a positive resilience outcome [13]. In this study, some working mothers showed that their resilience traits interacted dynamically with the environment to further strengthen their resilience traits, resulting in a high-support, low-stress breastfeeding environment, which helped these mothers to continue to breastfeed and achieve natural weaning, which meets the mental needs of both mother and baby. It also means this kind of weaning may be a mutual process which be driven by both mother and baby [30]. Although WHO recommended continued breastfeeding for up to 2 years or more [1] and some anthropologists thought the natural age of weaning for children is between 2.5 and 7 years from the biological view [31], Natural weaning occurs before the child is 2 years old in this study and mother and baby experience a mutual process. Thereby, it may be unreasonable to define natural weaning according to the time of weaning, further research is needed to explore the cultural and social aspect of natural weaning.

Active weaning is a type of adaptation. Adaptation is defined as returning to the prestress state in individuals with average resilience [13]. In this study, some working mothers set a goal for breastfeeding. They tried to improve their environment, gain support, and overcome challenges during breastfeeding. Once they had reached their goal, they wanted to resume normal work as soon as possible in the face of new stressors. In such cases, it was difficult to continue to build resilience traits and facilitate behavior changes, and the dynamic interaction stopped, resulting in active weaning in which the child's mental needs may or may not have been met. In addition, this study shows that while these working mothers eventually stopped breastfeeding, they had been hesitant about stopping breastfeeding after they had reached their breastfeeding goal, suggesting that targeted intervention may help these mothers to continue breastfeeding. Further research is needed to study this topic.

Forced weaning is a type of maladaptive reconstruction. Maladaptive reconstruction is defined as a negative interaction between individual resilience traits and the environment, resulting in negative resilience outcome [13]. As breastfeeding goes on, some employed mothers face overwhelming new stressors, which along with a lack of strong support and good stress management may cause forced weaning. These mothers often feel “guilty”, and both the mother and the child have unmet mental needs. Therefore, these mothers may need to seek some professional help and more studies on these problems are needed in the future.

The significance of this study for midwifery practice

In this study, we used Kumpfer's Resilience Framework to investigate the process of resilience building in employed mothers who continued to breastfeed after returning to work in China. The findings may help midwives assess stressors and support for working mothers to continue to breastfeed after returning to work, determine the process by which resilience traits are stimulated in working mothers, identify different phases of behavioral resilience, provide evidence for targeted interventions, define weaning outcomes, and promote favorable outcomes.

Limitations

Two researchers evaluated and analyzed the data in this study, and different methods were used to improve the reliability of data. However, the results may not be objective, as they may inevitably reflect the authors' ideas and opinions. Moreover, the employed mothers enrolled in this study worked in the public sector with job security, for instance as teachers, healthcare professionals, policewomen, civil servants, and designers. Future researches are needed to study employed mothers in private companies or businesses.

Conclusions

In this study, we used Kumpfer's Resilience Framework to form the framework of resilience in employed mothers who continue to breastfeed after returning to work. This framework shows that the dynamic interaction between environmental factors (stressors, supports) and individuals stimulates resilience traits and behavioral resilience in working mothers. As working mothers face new stressors and enjoy support, the ongoing dynamic interaction between resilience traits and environmental factors leads to three different weaning outcomes. Further in-depth study is needed to explore the application of the resilience framework on employed mothers' breastfeeding into midwifery practice. The findings provide new insights into the resilience of employed mothers around the world to continue breastfeeding and show the different culture of breastfeeding on employed mothers. The resilience of framework identified in this study may provide reference value for midwives' practice to promote continuous breastfeeding of employed women and further improve the quality of midwifery care.

Abbreviations

WHO: World Health Organization; CDRF: China Development Research Foundation

Declarations

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Authors' contributions

Hong Hua Guo and Rong Zhou conceived the study idea and were responsible for the study design, data collection, data analysis and major contributor in writing the manuscript. Cai Hong Zhang and Hong Lu contributed to the study design, data analysis and critical revision of the manuscript as submitted. Min Xiang Li, Si Qi Zhang, Huanying Yi, Lin Jie Wang and Tong Li contributed to the study design and date analysis. All authors have read and approved the final manuscript.

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Availability of data and materials

The dataset or transcripts are available from the corresponding authors upon reasonable request.

Ethics approval and consent to participate

This study was approved by the Ethics Committee of the Second Affiliated Hospital of Hainan Medical University. All participants provided informed consent.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Figures

Figure 1

The framework of dynamic interactive resilience on employed mothers who continue to breastfeed after returning to work