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Exploring Childcare Options, Maternal Stress, and Work-life Balance of Employed Mothers in Debre Markos Town

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Abstract

Employed mothers in resource-constrained settings face challenges in balancing work and childcare, yet limited research explores how childcare options and workplace conditions shape maternal well-being. This study examined childcare options, maternal stress, and work-life balance (WLB) among employed mothers in Debre Markos Town, Ethiopia, using quantitative cross-sectional survey design. Data were collected through questionnaire from 418 employed mothers who were selected by stratified random sampling technique, and were analyzed using percentage, independent sample t-test, Pearson correlation, and linear regression techniques. Results revealed that most employed mothers relied on informal childcare due to its affordability, proximity, and accessibility, despite perceiving formal childcare as higher in quality. However, formal care was often considered unaffordable and inflexible. Mothers using informal care experienced higher stress levels and poorer work-life balance compared to those using formal care. Flexible work schedules and employer support for childcare emerged as key predictors of improved work-life balance and reduced maternal stress. The results of this study underscore the critical need for accessible and reliable childcare services and for workplace policies that support employed mothers. Hence, the results have practical implications for policymakers, employers, and childcare providers, offering guidance on how to design interventions that promote gender equity and economic productivity.

Keywords: childcare options, employed mothers, maternal stress, work-life balance.

1. Introduction

1.1.Background of the Study

The increasing participation of females in labor force across developing nations since 1980s has introduced significant challenges for them, particularly in balancing income-generating activities with unpaid care works, such as, childcare responsibilities (Sivard, 1985). In many low-income countries, these challenges are exacerbated mainly by limited access to affordable, quality and reliable childcare services (Leslie & Paolisso, 1989; UN Women, 2021). Globally, childcare options for many working mothers range from informal arrangements (e.g., unpaid care by relatives or siblings) to formal institutions such as daycare centers, which often emphasize early childhood education

for children aged three to six years (Myers & Indriso, 1987; OECD, 2019).

Informal childcare arrangement options, – such as, extended family, neighbors, or community networks – remain predominant option in regions like Sub-Saharan Africa (SSA) due to cultural norms and limited formal infrastructure (UNICEF, 2020). In Ethiopia, urban centers like Addis Ababa have a mix of informal care (e.g., kin-based arrangements) and emerging formal options such as private daycare centers and employer-supported facilities (Tilahun & Belete, 2021). However, affordability of the formal care options remains a critical barrier as a study in Addis Ababa found that low-income mothers spend up to 35% of their earnings on childcare, which lead them to prioritize informal options despite concerns about reliability (Alemu et al., 2019). The Ethiopia Demographic and Health Survey (EDHS, 2016) notes that only 8% of urban mothers use formal childcare, citing high costs and proximity issues.

Work-life balance (WLB), defined as the negotiation of role-related expectations across professional and familial domains (Sirgy & Lee, 2018), is critically undermined when childcare options are inaccessible or unreliable particularly in many middle income countries (World Bank, 2021). Many mothers in developing contexts often face role strain, where conflicting demands of caregiving and employment lead to stress and reduced productivity (Valcour, 2007). For example, reliance on older siblings (often girls) for childcare compromises preschoolers' nutritional and developmental outcomes, perpetuating intergenerational cycles of disadvantage (Engle, 1991). Conversely, access to formal childcare correlates with improved maternal outcomes as Mercy Corps (2019) noted that it reduced absenteeism and enhanced productivity among employed mothers when mothers trust their children's safety.

WLB among many employed mothers in Ethiopia is heavily influenced by inflexible work schedules, gendered caregiving roles, and inadequate institutional support (Bahiru, & Mengistu, 2018; Gudina & Gemechu, 2023). A study on Ethiopian nurses, for instance, revealed that 78% reported poor WLB due to rotating shifts and lack of workplace flexibility (Gebrehiwot & van der Veen, 2021). The gendered division of labor exacerbates this phenomenon than Ethiopian women perform 4.7 hours of unpaid care work daily, compared to 0.9 hours for men (EDHS, 2016), leaving mothers vulnerable to time poverty and role overload.

Childcare arrangement options often relate to maternal stress levels (Goelman et al., 2014). In SSA, informal care's unpredictability—such as last-minute caregiver absences—heightens anxiety (Nguyen & Afolabi, 2022). Evidences from Ethiopia also showed that mothers relying on neighbors or siblings for childcare report guilt and chronic stress, particularly when care quality is perceived as inadequate (Mercy Corps, 2019)). Financial strain from formal childcare costs also exacerbates stress as Alemu et al (2019) have indicated that in Addis Ababa, single mothers paying for daycare experienced 40% higher stress levels than those using familial support. Notably, employer-supported childcare has shown promise in reducing stress. In Kenya, workplace daycare reduced maternal stress by 25% (Okafor et al., 2021), but such initiatives are rare in practice in Ethiopia, although the recent Federal Civil

Servants Proclamation Nº 1353/2024 endorses workplace daycare as mandatory service to be provided by the employing institution. In Article 72/6, it states that "[a]ny government institution shall establish a nursery where female civil servants could breastfeed and take care of their babies".

In Ethiopia, mothers with low spousal or institutional support experience "loss spirals," where stress impairs their ability to manage work and family roles (Assefa et al., 2023). Conversely, poor WLB—such as inflexible jobs—predicts elevated stress. For example, factory workers in Hawassa with rigid schedules reported 40% higher stress levels than peers with autonomy (Assefa et al., 2023). This bidirectional relationship underscores the need to analyze both variables holistically in Debre Markos, particularly in government employment sectors. Flexible work arrangements (e.g., telework, staggered hours) improve WLB, as seen in Ethiopian banks where teleworking reduced absenteeism by 20% (Gebremariam & Tesfaye, 2022). However, only 5% of Ethiopian firms offer such policies, and enforcement of maternity protections (e.g., Proclamation Nº 1353/2024) remains weak (ILO, 2021).

Institutional and demographic factors further shape childcare dynamics. Successful programs combine government subsidies with community contributions to enhance affordability and sustainability. Workplace-integrated childcare demonstrates the importance of aligning care schedules with maternal labor demands. However, low-income mothers remain disproportionately burdened many spend over a third of their income on childcare, limiting access to higher-quality services (Leslie & Paolisso, 1989). Additionally, mothers of children under two face unique challenges, as their needs extend beyond custodial care to include lactation support and age-specific nutrition—a gap rarely addressed in existing programs (Esping-Andersen, 2009).

Few studies have examined the impact of demographic factors (e.g., marital status, number of children, and income) on maternal stress and childcare options. For instance, single mothers in Addis Ababa are twice as likely to use formal childcare compared to married mothers but experience greater financial stress (Alemu et al., 2019). The number of children also influences childcare choices, with mothers having three or more children being 50% more likely to rely on informal care arrangements (EDHS, 2016). Income disparities further shape childcare expenditures, as high-income mothers in Bahir Dar allocate approximately 15% of their earnings to childcare, whereas their low-income counterparts spend nearly 35% (Alemu et al., 2019). These findings suggest that demographic factors play a crucial role in determining both access to and affordability of childcare, with significant implications for maternal well-being and economic stability.

1.2.Statement of the Problem

The increasing participation of women in Ethiopia's workforce has not been matched by adequate institutional or societal support systems, leaving employed mothers to manage fragmented childcare options, rigid workplace structures, and persistent cultural expectations around maternal caregiving (Fena, 2020; United Nations Women Africa, 2024). While national and regional studies have broadly examined maternal employment and childcare in urban Ethiopia (e.g., Addis Ababa, Bahir Dar), few have focused

specifically on secondary urban centers like Debre Markos Town. This emerging urban area presents a distinct context, characterized by rapid urbanization, limited formal childcare infrastructure, and strong dependence on informal, kin-based care arrangements. Moreover, local workplaces rarely provide accommodations for caregiving, exacerbating maternal stress and work-life imbalance. To date, no published studies have systematically examined the childcare experiences and perceptions of employed mothers in Debre Markos Town, making this research both timely and necessary to inform context-sensitive policy and program design. National survey (EDHS, 2016) indicate only 8% of urban Ethiopian mothers use formal childcare, citing prohibitive costs and distrust of non-kin caregivers. Meanwhile, maternal stress levels remain alarmingly high, exacerbated by role strain from balancing inflexible jobs with unpaid care work (4.7 hours/day for women vs. 0.9 hours/day for men) (EDHS, 2016).

While the existing literature provides insights into broad trends in urban areas, critical gaps persist. First, few studies identify feasible childcare solutions for mothers of infants under four who are not retained in conventional pre-school programs. Second, the qualities of sustainable, low-cost models of childcare remain underexplored. Third, the integration of childcare services into workplaces is rarely evaluated in terms of its impact on maternal productivity. Finally, there is a lack of research examining the childcare ecosystem in Debre Markos and the relationship between maternal stress and work-life balance in this specific setting. These gaps collectively limit the development of equitable, evidence-based solutions to support working mothers. To help address these challenges, this study was undertaken to explore the interrelationships among childcare options, maternal stress, and WLB among employed mothers in Debre Markos Town. It also aims to examine how the characteristics of employing institutions influence these factors, with the goal of informing policies that promote maternal well-being and child development in similar urbanizing settings. Hence, this study addresses these gaps by investigating the following basic research questions.

1. What is the dominant childcare option employed mothers in Debre Markos Town utilize?
2. How do employed mothers in Debre Markos Town perceive the typical characteristics of childcare options?
3. What are the levels of WLB and stress among employed mothers in Debre Markos Town?
4. Are there statistically significant differences in maternal stress and WLB satisfaction levels across childcare options adopted by employed mothers in Debre Markos Town?
5. Is maternal stress significantly associated with WLB satisfaction among employed mothers in Debre Markos Town?
6. Do work-related situations of employed mothers exert statistically significant effect on their stress levels and WLB satisfaction?

1.3. Conceptual Framework of the Study

Conceptually, this study posits that both childcare options and work-related conditions influence maternal stress and WLB satisfaction among employed mothers.

Childcare options are categorized as either informal (e.g., kin-based care, stay-at-home parents/relatives) or formal (e.g., private and public daycare), and their perceived characteristics—such as affordability, availability, proximity, flexibility, and quality—serve as critical factors in shaping maternal well-being (Tilahun & Belete, 2021; UNICEF, 2020). Simultaneously, work-related conditions, including work schedule, flexibility, employment type, and employer-provided childcare support, further contribute to the levels of maternal stress and WLB satisfaction (Allen, Cho, & Meier, 2022; Grzywacz & Carlson, 2021).

Theoretically, these factors are informed by Bronfenbrenner's Bioecological Systems Theory, which underscores the influence of multiple environmental layers on human development (Bronfenbrenner, 1979), and Role Strain Theory, which explains how conflicting role demands can lead to increased stress (Goode, 1960). By integrating these theoretical perspectives, the framework (see Figure 1) provides a comprehensive lens for understanding how the interplay between childcare arrangement options and work-related conditions affects the psychological and functional well-being of employed mothers in present study site.

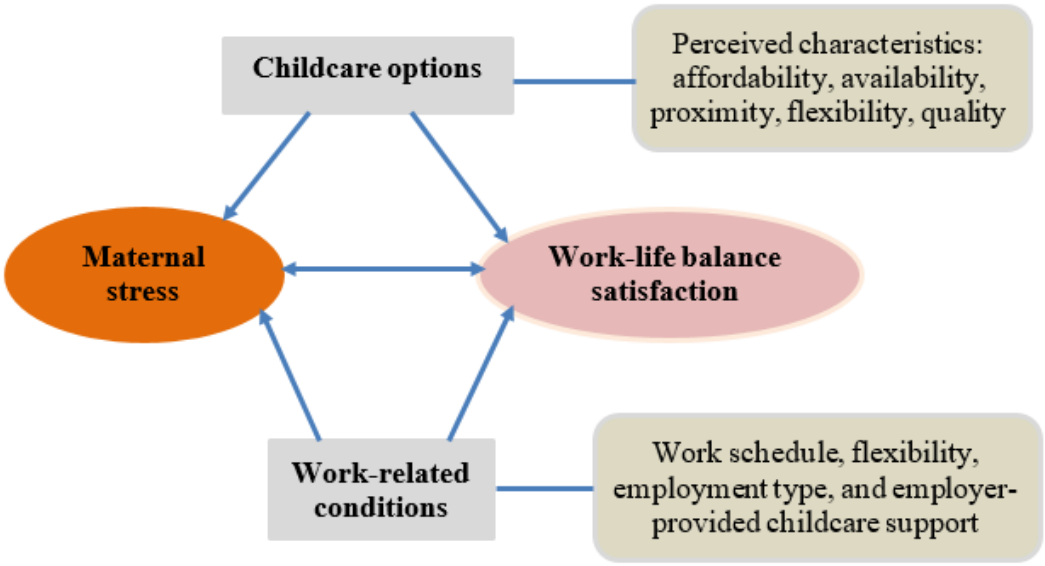

Figure 1. Conceptual framework for the study

1.4.Significance of the Study

Theoretically, this study advances the application of Bioecological Systems Theory and Role Strain Theory by illustrating how childcare arrangements and workplace conditions interact to shape maternal stress and work-life balance (WLB) within an emerging urban Ethiopian context. Practically, the study offers actionable implications for policymakers, employers, NGOs, and employed mothers. For employers, evidence linking flexible workplace policies to improved WLB can motivate the adoption of family-friendly practices that enhance workforce retention and productivity. Policymakers can use the findings to strengthen the enforcement of labor protections (e.g., Proclamation No. 1353/2024) and develop subsidy programs for low-income working mothers. NGOs can design more targeted interventions that promote gender equity, maternal well-being,

and early childhood development. For employed mothers themselves, the study provides recognition of their challenges, raises awareness of possible support options, and encourages advocacy for better working conditions. Finally, the research lays a foundation for future academic inquiry, particularly in under-researched secondary cities, and encourages mixed-method approaches to better capture cultural nuances in childcare and maternal well-being.

2. Methods

2.1.Study Site Description

This study was conducted in Debre Markos Town, located 295 kilometers northwest of Addis Ababa in the Amhara Regional State of Ethiopia. The town serves as the administrative and economic hub of East Gojjam Zone. Debre Markos hosts key institutions such as Debre Markos University, multiple health facilities, and government offices, which employ a significant portion of its workforce, including women. Despite its urban development, the town retains strong ties to the Amhara cultural norms, including patriarchal family structures and gendered divisions of labor, where childcare remains predominantly a maternal or kin-based responsibility (Mulugeta & Hagos, 2020).

2.2.Study Design

This study employed quantitative cross-sectional survey design to investigate childcare arrangements, maternal stress, WLB satisfaction, and work-related factors among employed mothers in Debre Markos Town. Data were collected from participants during a single time period to capture a snapshot of their experiences, perceptions, and outcomes (Polit & Beck, 2017). The cross-sectional design was chosen for its efficiency in addressing the study's objectives within a short timeframe (Sedgwick, 2014). Hence, this design enables the study to capture a snapshot of the current state of maternal stress and WLB dissatisfaction, as shaped by rapidly evolving childcare arrangements and workplace conditions in Debre Markos Town. As Ethiopia undergoes urban transformation, especially in secondary cities, social institutions often lag behind infrastructural development, creating unique stressors for employed mothers (World Bank, 2020). In such settings, cross-sectional studies are valuable for identifying immediate patterns, correlations, and contextual predictors—such as affordability, availability of childcare, and employer support—which may inform timely interventions before systemic reforms are implemented or data becomes outdated.

2.3.Population, Sample, Sampling Technique and Sample Size of the Study

The target population for this study comprised employed mothers residing in Debre Markos Town who had at least one child under the age of four at the time of data collection. Employed mothers were targeted in the study mainly because they provide data on their lived experiences of the nature their childcare arrangements. These mothers were employed across various regional and federal government sectors and employment roles within the town. The number of employed mothers with young children fluctuates frequently within these institutions and due to this there is no precise population data for employed mothers.

To ensure comprehensive representation, mothers employed across 30 sectors and institutions with different employment roles (e.g., teachers, agricultural development workers, customer service agents, finance officers, human resource personnel, storekeepers, typists, judges, nurses, and communication experts) were included in this study. To capture this diversity, a stratified random sampling technique was employed. The population was first divided into strata based on the employment sectors and specific job roles within those sectors. From each stratum, participants were then selected using simple random sampling method to ensure proportional participation across the diverse sectors and occupational categories.

Since there was no accurate population data on employed mothers with children under age four, the sample size was calculated using the formula for unknown population (Cochran, 1977). Assuming a population proportion of p = 0.5 (to maximize variability), a 95% confidence level, and a 5% margin of error, the formula yielded a minimum required sample size of 385. To account for potential non-responses, an additional 10% (n = 38.5) was added, resulting in a target sample of 424 employed mothers. Thus, data were collected from 424 participants, with 418 responses retained for final analysis after excluding incomplete questionnaire.

Hence, the study included participants from a wide range of sectors and institutions residing in Debre Markos Town, including Debre Markos Town health office (15), education office (8), East Gojjam Zone agriculture office (6), finance and economy office (8), urban infrastructure development (8), civil service office (10), trade and market development office (15), justice office (3), women, children and social affairs office (14), revenue office (14), Ethiotelecom (9), Ethiopian Electric Utility (5), Debre Markos University (51), East Gojjam Zone Disaster Prevention and Food Security Program Coordination Office (4), Ethiopian Road Authority (9), commercial banks (25), Mayor Office (5), transport office (6), primary and secondary schools (33), Debre Markos Comprehensive Hospital (27), public clinics and health centers (32), entrepreneur and skills training (8), Debre Markos Town Water and Sewerage Office (7), Culture and Tourism Department (8), Government Communication Affairs Department (6), Debre Markos Poly-Technic College (17), Debre Markos Teachers' Education College (27), entrepreneur and skills training department (9), Debre Markos town sub-cities (28), and Debre Markos Town transport service (7).

2.4.Data Collection Instrument and Validation

The study employed questionnaire composed of five sections to assess key variables, including childcare options and perceived characteristics, WLB satisfaction, maternal stress, work-related characteristics, and demographic profiles. The questionnaire integrated scales adapted to the contexts of the study site.

The Work-Life Balance Satisfaction Scale was adapted from the shortened Work-Life Balance Scale (Hayman, 2005) and consists of six items. Participants' scores were categorized into three ordinal levels—lower, moderate, and higher—based on a mean of 9.99 and a standard deviation of 1.75. Similarly, the Maternal Stress Status Scale,

comprising 11 items, was adapted from the Maternal Role Stress Scale (Rania et al., 2021). Participants were classified into three stress levels according to a mean of 43.53 and a standard deviation of 4.47.

Demographic and childcare-related variables were measured using closed-ended questions (e.g., employment type, childcare affordability) to ensure consistency. The original questionnaire was developed in English, then translated into Amharic—the primary language spoken by participants—to facilitate comprehension and minimize language barriers. A back-translation to English was conducted to verify linguistic accuracy. Adjustments were also made to ensure cultural relevance (e.g., redefining "flexible schedules" to reflect local workplace norms).

Trained assistant data collectors administered paper-based questionnaires at the workplaces of employed mothers and provide assistance to participants with difficulty in understanding items. Data collection occurred over four weeks by four assistants.

Prior to full-scale implementation, pilot-test was conducted with 32 employed mothers in Debre Markos Town to evaluate the instrument's clarity, reliability, and cultural appropriateness. The try-out participants completed the questionnaire and provided feedback, leading to revisions such as simplifying ambiguous terms (e.g., replacing "organizational support" with "employer support"). Reliability analyses revealed strong internal consistency for all scales (Cronbach's $\alpha > .75$). Data and participants from the pilot test were excluded from the main study to prevent potential bias.

Furthermore, to ensure content validity, the questionnaire items were evaluated by three subject-matter experts with expertise in mental health and organizational behavior. Each expert rated the relevance of each item using a three-point scale: (1) not necessary, (2) useful but not essential, and (3) essential. The Content Validity Ratio (CVR) for each item was then calculated using Lawshe's (1975) formula. According to Lawshe's criteria, with three experts, an item must achieve a minimum CVR of 0.99 to be considered valid. Items falling below this threshold were either revised or removed based on the experts' feedback. This rigorous process ensured that only the most relevant and essential items were retained in the final version of the instrument.

2.5.Data Analysis Techniques

The data analysis for this study was conducted using IBM SPSS Statistics 29, with techniques tailored to address the basic research questions of the study.

To address the research questions on the types of childcare options and perceptions of quality, affordability, accessibility and levels of stress and WLB, descriptive statistics (frequencies and percentages) were computed. For research question related to the differences in maternal stress and WLB across childcare options, independent samples t-test was used. Research question on the association between maternal stress and WLB was analyzed using Pearson's correlation to quantify the relationship between maternal stress status WLB satisfaction. Linear regression model was employed to predict maternal stress and WLF from work-related conditions.

Statistical assumptions of the tests were checked**.** Data normality (Shapiro-Wilk test), multicollinearity (VIF < 5), and homoscedasticity were verified.

2.6.Ethical Considerations

Ethical considerations were rigorously observed throughout the study. All participants provided written informed consent for both data collection and publication of the study findings. Formal official letter was obtained from the Department of Psychology at Debre Markos University requesting participants to cooperate by providing relevant data for this study. Moreover, the research protocol was designed to safeguard participant confidentiality and privacy, with all data securely stored and accessible only to the research team.

3. Results

3.1.Socio-demographic Profiles of Participants

This study included 418 employed mothers in Debre Markos Town. Basic socio-demographic profiles of these participants are presented in Table 1.

Table 1. Socio-demographic profiles of participants

Variables	Category	Freq.	Percentage
Age of the mother	Less than 25 years	96	23.0
	26-35 years	186	44.5
	36-45 years	133	31.8
	Greater than 46 years	3	0.7
Educational levels of the mother	Primary education	4	1.0
	Secondary education	77	18.4
	College diploma	197	47.1
	Bachelor's degree	89	21.3
	Master's degree or higher	51	12.2
Age of the child	Less than 6 months	81	19.4
	7 to 12 months	84	20.1
	1-2 years	170	40.7
	3-4 years	83	19.9
Household monthly income	Below 999 birr	88	21.1
	1000-3000 birr	92	22.0
	3001 -5999 birr	204	48.8
	6000 birr and above	34	8.1
Marital status of the mother	Married	304	72.7
	Divorced/separated	79	18.9
	Widowed	35	8.4
Living situation of the mother with the partner	Live with partner	260	62.2
	Live with extended family	84	20.1
	Live separately due to work	74	17.7

As shown in Table 1, the majority (44.5%) of participants were aged 26–35 years, followed by those aged 36–45 years (31.8%), while only 0.7% were over 46 years. Educational attainment varied, with 47.1% holding college diploma, 21.3% a bachelor's degree, and 12.2% a master's degree or higher. Most mothers had children aged 1–2 years (40.7%), followed by those with infants under 6 months (19.4%). Household income

distribution revealed that nearly half (48.8%) earned between 3,001–5,999 birr monthly, while only 8.1% earned above 6,000 birr. Marital status data indicated that 72.7% were married, 18.9% divorced/separated, and 8.4% widowed. Majority of the participants (62.2%) lived with their partners, while 17.7% lived separately due to work commitments.

3.2.Childcare Options and Perceptions

Table 2 indicates the type of dominant childcare options employed mothers utilize. The Table also presents a comparative analysis of informal and formal childcare options across key characteristics, including affordability, availability, proximity, flexibility, quality, satisfaction, and backup plans.

Table 2. Childcare options and characteristics

Childcare option characteristics	Responses	Type of childcare options			
		Informal		Formal	
		Freq.	Percentage	Freq.	Percentage
Affordability of childcare	Very unaffordable	62	19.1	22	23.7
	Somewhat unaffordable	90	27.7	36	38.7
	Neutral	70	21.5	19	20.4
	Affordable	94	28.9	15	16.1
	Very affordable	9	2.8	1	1.1
Availability of childcare	Very difficult	60	18.5	23	24.7
	Somewhat difficult	105	32.3	46	49.5
	Neutral	69	21.2	17	18.3
	Easy	57	17.5	3	3.2
	Very easy	34	10.5	4	4.3
Proximity of childcare	Less than 5 km	184	56.6	43	46.2
	5-10 km	44	13.5	19	20.4
	10-15 km	55	16.9	18	19.4
	More than 15 km	42	12.9	13	14.0
Flexibility of childcare	Very inflexible	91	28.0	38	40.9
	Somewhat inflexible	84	25.8	42	45.2
	Neutral	39	12.0	10	10.8
	Somewhat flexible	111	34.2	3	3.2
	Very flexible	0	0.0	0	0.0
Quality of childcare	Very poor	104	32.0	18	19.4
	Poor	89	27.4	5	5.4
	Neutral	68	20.9	14	15.1
	Good	56	17.2	46	49.5
	Excellent	8	2.5	10	10.8
Satisfaction with childcare	Very dissatisfied	111	34.2	38	40.9
	Dissatisfied	78	24.0	12	12.9
	Neutral	75	23.1	18	19.4
	Satisfied	54	16.6	22	23.7
	Very satisfied	7	2.2	3	3.2
Backup plan of childcare	Yes	132	40.6	30	32.3
	No	193	59.4	63	67.7

Table 2 showed that childcare arrangements of employed mothers heavily relied on informal solutions, with 77.8% depending on stay-at-home parents, relatives, or siblings.

Formal options (20.2%) such as private daycare and public daycare were less prevalent. Regarding affordability, formal childcare is perceived as less affordable compared to informal options. A combined 62.4% of formal childcare users reported it as "very unaffordable" or "somewhat unaffordable" (23.7% and 38.7%, respectively), whereas 46.8% of informal users shared this sentiment. Conversely, nearly one-third (28.9%) of informal users found childcare "affordable," compared to only 16.1% for formal care. Accessibility further differentiates the two: 49.5% of formal users described availability as "somewhat difficult," with an additional 24.7% deeming it "very difficult." Informal care, while still challenging for some, had higher proportions reporting "easy" (17.5%) or "very easy" (10.5%) access.

Proximity favors informal care, with 56.6% of users accessing care within 5 km, compared to 46.2% for formal care. Formal options exhibited greater geographic dispersion, with 20.4% located 5–10 km away and 14% beyond 15 km. Flexibility also skewed toward informal care: 34.2% reported it as "somewhat flexible," while formal care was predominantly perceived as rigid, with 86.1% describing it as "very" or "somewhat inflexible." Notably, neither option received "very flexible" ratings, highlighting systemic rigidity in childcare structures.

Formal childcare was associated with higher perceived quality. Nearly half (49.5%) rated formal care as "good," and 10.8% as "excellent," starkly contrasting with informal care, where 59.4% described quality as "very poor" or "poor." However, satisfaction levels were polarized for formal care: 40.9% reported being "very dissatisfied," yet 26.9% expressed satisfaction (23.7% "satisfied," 3.2% "very satisfied"). Informal care elicited lower extreme dissatisfaction (34.2% "very dissatisfied") but also fewer positive responses (18.8% combined satisfaction). This dichotomy suggests formal care may meet specific quality standards but fail to align with all families' expectations or needs.

Informal care users were more likely to have backup plans (40.6% vs. 32.3%), possibly reflecting greater reliance on ad hoc networks like family or friends. The lack of backups for formal care (67.7% reported "none") underscores potential vulnerabilities in institutional childcare systems during disruptions.

3.3.Level of Maternal Stress and Work-life Balance Satisfaction

Table 3 presents the prevalence of maternal stress and WLB satisfaction among participants of the study, categorized into three ordinal levels: lower, moderate, and higher.

Table 3 shows that the majority of employed mothers (84.7%) reported experiencing moderate to higher levels of stress, while 15.3% reported a lower level of stress. Similarly, WLB satisfaction is also classified into three levels. The majority of respondents (89.5%) reported moderate to lower levels and 10.5% of them reported a higher level of WLB satisfaction. These findings indicate that most respondents experience moderate to higher and moderate

Table 3. Level of maternal stress and WLB satisfaction

Variables	Level	Freq.	Percentage

Maternal stress	Lower	64	15.3
	Moderate	252	60.3
	Higher	102	24.4
WLB satisfaction	Lower	111	26.6
	Moderate	263	62.9
	Higher	44	10.5

to lower levels of stress and WLB satisfaction levels, respectively.

3.4. Work-Life Balance Satisfaction and Maternal Stress across Childcare Options

Independent sample t-test was conducted to compare WLB satisfaction and maternal stress between employed mothers using informal and formal childcare options. The results are presented in Table 4.

Independent samples t-test results indicated a statistically significant difference in WLB satisfaction between mothers utilizing informal childcare (M = 9.88, SD = 2.66) and those using formal childcare (M = 10.66, SD = 3.97), $t(416) = -2.192$, $p = .029$, *Cohen's d* = -.258. The 95% confidence interval (CI) for the mean difference ranged from -1.10 to -0.06, indicating that mothers using formal childcare reported higher WLB satisfaction compared to those using informal childcare. As Cohen's d (Cohen, 1998) effect size benchmark (d= .80, .50, and .20 for large, medium, and small effects, respectively), this effect size (d = -.258) is a moderate but meaningful difference between the two groups.

Table 4. Independent samples t-test result of WLB satisfaction and maternal stress across childcare options

Variables	Childcare options	M	SD	95% Confidence Interval		df	t-value	p (two-tailed)	*Cohen's d* (point estimate)
				Lower	Upper				
WLB satisfaction	Informal	9.88	2.66	9.59	10.19	416	-2.192	.029	-.258
	Formal	10.66	3.97	9.88	11.50				
Maternal stress	Informal	44.02	5.73	43.35	44.61	416	3.098	.002	.132
	Formal	41.83	6.93	40.33	43.22				

A statistically significant difference was also observed in maternal stress levels between the two groups. Mothers using informal childcare reported higher maternal stress (M = 44.02, SD = 5.73) compared to those using formal childcare (M = 41.83, SD = 6.93), $t(416) = 3.098$, $p = .002$, *Cohen's d* = .132. The 95% CI for the mean difference ranged from 0.75 to 3.61, suggesting that mothers utilizing informal childcare experience significantly higher stress levels with a smaller effect size (.132). These findings suggest that formal childcare options are associated with higher WLB satisfaction and lower maternal stress compared to informal childcare options.

3.5. Association between Work-life Balance Satisfaction and Maternal Stress

Pearson correlation analysis was conducted to examine the relationship between WLB

satisfaction and stress among participants (n = 418). The results indicated a significant negative correlation between WLB and stress, $r(418)=-.486$, $p<.001$, suggesting that higher WLB satisfaction is associated with lower stress levels. The 95% confidence interval for the correlation coefficient ranged from -.556 to -.410, indicating a moderate effect size.

3.6. Work Related Conditions, Maternal Stress and Work-life Balance Satisfaction

This study examined three work-related conditions: work schedule, employment type, and employer support. The majority of mothers (78.0%) were employed full-time, while 22.0% worked part-time. Most participants (77.5%) followed a fixed work schedule, whereas 22.5% had flexible work arrangements. Additionally, 75.8% reported that their employer did not provide childcare support, while only 24.2% had access to such assistance. Linear regression analysis was conducted to examine the effects of these work-related conditions on maternal stress levels and WLB satisfaction. Employment type was initially considered but was not included in the final model as it did not contribute significantly to predicting maternal stress and WLB satisfaction.

Correlation analysis indicated a significant negative but weak association between work schedule and stress, r = -.174, p < .001, suggesting that mothers with a flexible work schedule reported lower stress levels. Similarly, employer support for childcare showed weak but significant negative correlation with stress, r = -.099, p = .021, indicating that employer-provided childcare support was associated with slightly lower stress levels. Employment type was not significantly correlated with stress, r = .012, p = .407.

Table 5. Linear regression analysis predicting maternal stress

Predictor	*B*	*SE*	*β*	*t*	*p*
Model 1					
Constant	44.10	0.33	—	132.52	<.001
Work Schedule	-2.52	0.70	-0.174	-3.60	<.001
Model 2					
Constant	44.42	0.37	—	120.36	<.001
Work Schedule	-2.50	0.70	-0.172	-3.58	<.001
Employer Support	-1.36	0.68	-0.096	-2.00	.046

As shown in Table 5, the first regression model, which included only work schedule, explained 3.0% of the variance in maternal stress (R^2 = .030, $F(1, 416)$ = 12.94, p < .001). When employer support for childcare was added in the second model, the variance explained increased to 3.9% (R^2 = .039, $F(2, 415)$ = 8.514, p < .001). The change in R^2 (0.009) was significant, $F(1, 415)$ = 3.995, p = .046, indicating that employer support made a small but meaningful contribution to predicting maternal stress.

In the final model, work schedule remained a significant predictor of maternal stress (B = -2.50, SE = 0.70, β = -0.172, t = -3.575, p < .001), indicating that having a flexible work schedule was associated with lower stress levels. Employer support for childcare also significantly predicted stress levels (B = -

1.36, *SE* = 0.68, *β* = -0.096, *t* = -1.999, *p* = .046), suggesting that mothers who received employer support for childcare experienced slightly lower stress.

Regarding WLB satisfaction, correlation analysis indicated that work schedule (*r* = .314, *p* < .001) and employer support (*r* = .175, *p* < .001) were significantly positively correlated with WLB satisfaction. Employment type was not significantly correlated with WLB satisfaction (*r* = -.046, *p* = .173).

As shown Table 6, the first regression model, which included only work schedule, explained 9.9% of the variance (R^2 = .099, *p* < .001). The addition of employer support in the second model led to a small but significant improvement in explanatory power (ΔR^2 = .029, *p* < .001). The final regression model, which included work schedule and employer support, was statistically significant, *F*(2, 415) = 30.31, *p* < .001, explaining 12.7% of the variance in WLB satisfaction (R^2 = .127, adjusted R^2 = .123).

In the regression coefficients for the final model, work schedule was a significant predictor of WLB satisfaction (*B* = 2.24, *SE* = 0.33, *β* = .311, *t* = 6.78, *p* < .001), indicating that a more flexible work schedule was associated with higher WLB satisfaction. Employer support also had a significant positive effect (*B* = 1.20, *SE* = 0.32, *β* = .170, *t* = 3.71, *p* < .001), suggesting that higher employer support was associated with greater WLB satisfaction. Employment type remained a non-significant predictor (*p* = .492) and was excluded from the final model.

Table 6. Multiple regression analysis predicting WLB satisfaction

Predictor	*B*	*SE*	*β*	*t*	*p*
Model 1					
Constant	9.55	0.16	—	60.01	<.001
Work Schedule	2.26	0.34	.314	6.74	<.001
Model 2					
Constant	9.26	0.17	—	53.10	<.001
Work Schedule	2.24	0.33	.311	6.78	<.001
Employer Support	1.20	0.32	.170	3.71	<.001

4. Discussion

This study examined childcare options, maternal stress, and WLB satisfaction among employed mothers in Debre Markos Town. The findings provide insights into the dominant childcare arrangements, their perceived characteristics, and their impact on maternal stress and WLB satisfaction. Furthermore, this study explored the association between maternal stress and WLB satisfaction and investigated the effects of work-related conditions on these variables. Discussion of the major results of this result presented in the following few paragraphs.

First, the findings of the present study underscore a critical tension between the accessibility, affordability, and quality of childcare options for employed mothers, reflecting broader systemic challenges in childcare provision (Brady, 2017; Meyers & Jordan, 2006). Informal childcare, heavily relied upon by 77.8% of mothers, offers logistical advantages such as proximity

(56.6% within 5 km), affordability (28.9% rated as affordable), and flexibility (34.2% perceived as "somewhat flexible") but is frequently criticized for lower quality (59.4% rated as "poor" or "very poor") (Samman et al., 2016). In contrast, formal childcare, though associated with higher perceived quality (60.3% rated as "good" or "excellent"), faces significant barriers, including cost (62.4% reporting unaffordability), geographic dispersion (14% beyond 15 km), and rigidity (86.1% described as "inflexible") (Engle et al., 2011). These results align with global patterns observed in low- and middle-income countries (LMICs), where formal childcare remains understudied and underutilized despite its potential benefits for child development and maternal workforce participation (UNICEF, 2015).

Comparatively, research in LMICs has highlighted mixed outcomes of formal childcare, with negative associations for child health (e.g., increased infections) but positive effects on growth, nutrition, and developmental skills, particularly in structured environments (Engle et al., 2011; Samman et al., 2016). For instance, a systematic review of LMIC childcare programs found that formal settings improved motor, language, and psychosocial skills, albeit with higher rates of communicable illnesses—a trade-off also observed in Thailand, where daycare attendance correlated with increased minor infections (Engle et al., 2011). These findings resonate with the polarization in satisfaction observed here: while formal care meets quality benchmarks, systemic rigidity and health risks may undermine parental confidence, leading to dissatisfaction among 40.9% of users (Morrissey, 2009; Lee & Parolin, 2021).

The emphasis on process quality (e.g., caregiver-child interactions) in high-income settings contrasts with structural limitations in LMICs and informal care contexts (National Center on Early Childhood Quality Assurance, 2019). Meta-analyses of early childhood education and care programs emphasize that process quality—such as responsive caregiving—drives developmental outcomes more than structural factors (e.g., teacher-child ratios) (Engle et al., 2011). However, in the present study, neither formal nor informal care received "very flexible" ratings, suggesting gaps in responsive caregiving across both sectors (Henly & Lambert, 2005).

Notably, the reliance on informal care networks for backup plans (40.6% vs. 32.3% in formal care) reflects adaptive strategies in contexts where institutional systems lack resilience (Samman et al., 2016). This mirrors findings from the Quality of Care Network evaluations, where fragmented childcare systems in LMICs necessitated community-driven solutions to sustain care continuity during disruptions (UNICEF, 2015). Conversely, the lack of backups in formal care (67.7%) underscores vulnerabilities in institutional models, emphasizing the need for integrated support systems (Lee & Parolin, 2021).

Second, the study found that a significant proportion of employed mothers (84.7%) reported experiencing moderate to high stress levels, while 89.5% reported moderate to low WLB satisfaction. These findings align with global trends indicating that employed mothers often struggle to balance work and

family responsibilities, leading to heightened stress levels (Grzywacz & Carlson, 2021). The high prevalence of stress may be attributed to factors such as limited childcare support, rigid work schedules, and societal expectations of maternal caregiving responsibilities (Nomaguchi & Milkie, 2020). Similarly, the low levels of WLB satisfaction suggest that many mothers experience role conflict, which is a core tenet of Role Strain Theory (Goode, 1960).

Furthermore, the high prevalence of moderate-to-severe maternal stress and low WLB satisfaction highlights the acute challenges employed mothers in the study site face. These rates exceed those reported in urban Ghana (Adom et al., 2019), suggesting unique socioecological stressors in Ethiopia, such as limited institutional childcare infrastructure and entrenched gender roles. The strong negative correlation between WLB and stress corroborates global evidence that work-family imbalance exacerbates psychological strain (Grzywacz & Marks, 2000). However, the magnitude of this association in Debre Markos—nearly 50% of stress variance linked to WLB—underscores the urgency of addressing structural inequities in childcare and workplace policies.

Third, the current study revealed significant differences in maternal stress and WLB satisfaction between mothers using informal and formal childcare. Mothers relying on informal childcare reported significantly higher stress levels and lower WLB satisfaction compared to those using formal childcare. These findings align with previous research indicating that structured childcare services can mitigate maternal stress by providing reliable caregiving and reducing the unpredictability associated with informal arrangements (Zilanawala et al., 2022). The modest effect size observed in this study suggests that while childcare arrangements play a role, other factors such as workplace policies and support systems also contribute to maternal well-being. These findings are also aligned with Role Strain Theory's premise that formal care's structured nature reduces unpredictability, thereby alleviating role conflict (Goode, 1960). However, the modest effects suggest systemic barriers—such as high costs and limited availability—curtail formal care's potential benefits. This appears to align with Bioecological Theory: without exosystemic supports (e.g., employer subsidies, public funding), even preferred childcare options remain inaccessible, perpetuating strain.

Fourthly, the present study found a significant negative correlation between maternal stress and WLB satisfaction, indicating that higher levels of stress are associated with lower WLB satisfaction. This finding is consistent with prior studies suggesting that stress from work and family obligations can diminish overall life satisfaction and well-being (Kossek et al., 2021). From a theoretical perspective, this aligns with Bronfenbrenner's Bioecological Systems Theory, which posits that interactions between micro- and exosystems such as workplace demands and childcare availability shape maternal well-being (Bronfenbrenner, 1979). The negative association also reinforces the central tenets of Role Strain Theory, where competing role expectations create stress that undermines life satisfaction (Goode, 1960).

Finally, this study identified work schedule flexibility and employer childcare support as

significant predictors of maternal stress and WLB satisfaction. Mothers with flexible work schedules reported significantly lower stress levels and higher WLB satisfaction, a finding consistent with research suggesting that flexible work arrangements can alleviate work-family conflict (Allen et al., 2022). Furthermore, employer-provided childcare support was associated with lower stress and higher WLB satisfaction, highlighting the critical role of workplace policies in supporting working mothers. However, the limited availability of such support underscores the need for improved family-friendly workplace policies in Ethiopia.

More importantly, the current study showed that flexible work schedules and employer childcare support emerged as critical buffers, mirroring findings from South Africa (Hendricks & Mapolisa, 2021). Employer childcare support, though less impactful, still contributed uniquely to stress reduction, highlighting its potential in low and middle income country contexts. These results extend Role Strain Theory by quantifying how institutional supports mitigate strain, even in settings with scarce formal childcare.

This study contributes to the theoretical discourse by extending Bioecological Systems Theory and Role Strain Theory to an Ethiopian context. It highlights the interplay between childcare options, and work-related conditions in shaping maternal stress and WLB satisfaction. Practically, the findings offer valuable insights for policymakers, employers, and non-governmental organizations (NGOs). Mandating flexible schedules under the Ethiopian Labor Proclamation № 1353/2024 and incentivizing employer-sponsored childcare, as seen in Rwanda's cooperative models (Ngabonzima et al., 2021). The identification of informal childcare as the dominant yet less satisfactory option suggests an urgent need for investments in affordable and high-quality formal childcare services. Employers can enhance workforce retention and productivity by implementing flexible work arrangements and childcare support programs. Subsidizing formal childcare through public-private partnerships, such as scaling up existing community associations (e.g., iddir or community mutual aid groups), is suggested based on the strong role these associations already play in social support and resource mobilization within Ethiopian communities (Aregawi, 2019). Leveraging their established networks and trust can facilitate the development of affordable, accessible, and flexible formal childcare options tailored to the needs of employed mothers, especially in urbanizing settings where formal childcare infrastructure is limited. Moreover, policymakers can strengthen labor laws and childcare subsidies to support working mothers, particularly those from low-income backgrounds.

4.1.Limitations of the Study

Finally, the present study has certain limitations: the cross-sectional design precludes causal inferences, and self-reported data may introduce social desirability bias. The focus on a single urban locale limits generalizability to rural Ethiopia, where childcare dynamics may differ. Future studies, thus, should employ mixed methods to explore cultural nuances (e.g., extended family roles). Comparative analyses across Ethiopian regions could identify context-specific stressors.

4.2.Conclusion

This study underscores the significant impact of childcare arrangements and work-related factors on maternal stress and WLB satisfaction among employed mothers in Debre Markos Town. The findings suggest that while informal childcare remains the most accessible option, it is associated with higher stress and lower satisfaction compared to formal childcare. Moreover, workplace flexibility and employer childcare support play crucial roles in alleviating maternal stress and enhancing WLB. Addressing these challenges requires a multi-sectoral approach involving policymakers, employers, and community stakeholders to improve childcare accessibility and workplace policies, ultimately fostering better work-life integration for employed mothers.

4.3.Recommendations

Based on the results of the study, the following recommendations were forwarded.

- Governments and municipal authorities may subsidize and expand affordable formal childcare centers while enforcing labor laws for workplace flexibility;
- Employers could adopt family-friendly policies and childcare subsidies;
- NGOs and community organizations might to train caregivers, develop emergency backup systems, and launch gender equity campaigns.

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