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Research Article

Correlates of desire for children among women

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Abstract

Objective: To describe levels of desire for children and identify factors influencing women's desire for children (DFC).

Design: Descriptive correlational study.

Setting: Participants were recruited from a Qualtrics online panel.

Participants: 228 women from the following nations: Columbia, South America, Dominican Republic, Ghana, Honduras, India, Nigeria, Philippines, United Kingdom, and the USA.

Methods: DFC was measured using the Modified Index of Parenthood Motivation (MIPM), a 14-item self-reporting tool, and the Motives Toward Parenthood Scale (MTPS), a 30-item tool with four subscales.

Results: MIPM was related to education levels, employment status, the number of children she had, and her parity. One-way ANOVA revealed significant relationships between MIPM with race and nationality. As shown in Mean DFC Scores by Nationality, post hoc tests revealed significant differences in mean MIPM scores when comparing Colombians to Nigerians, Ghanaians to both Colombians and Honduran participants, and finally, significant differences in mean MIPM scores when comparing between Philippine and Colombian, as well as Honduran participants. Subjective norms, consequences, and individual costs mean scores were below midpoints.

Conclusion: Participants with increased DFC had increased education, were employed, had more children, and had been pregnant more times than participants with decreased DFC. Women who identified as Black had significantly greater DFC than those who identified as White or Hispanic. Women from Nigeria, Ghana, and the Philippines had significantly greater DFC than participants from Colombia and Honduras. Participants disagreed with subjective norms but agreed with the positive consequences of motherhood.

Introduction

Lower fertility rates today impact the future in many places across the globe. Worldwide, fertility rates have decreased for decades [1]. The general fertility rate, measured as the number of births per 1,000 women ages 15–44, has decreased in the United States in the past 30 years. The World Bank data shows a steady decrease in the U.S. since 2007, with a rate of 1.70 as

of 2019. The U.S.'s total fertility rate of 2.08 is considered the "replacement level." The European Union (E.U.) fertility rate has hovered around 1.5 since 2007. However, the number of live births per woman of 2.1 is needed to maintain a steady overall population size in the E.U. Similarly, Sub-Saharan Africa has seen a steady decrease in fertility since 1977. There is a present fertility rate of 4.69 in Sub-Saharan Africa. Although the fertility rates in Sub-Saharan Africa are twice that of



predominately White nations, the decline is still meaningful and may indicate the times. A fertility transition occurred in Asia and Latin America from 2010–2015, with Asia seeing the fastest fertility decline of all regions (from 6 to 2.2 children) [2]. The fast fertility transitions in North America, Europe, Latin America, the Caribbean, and Asia have been driven mainly by family limitations, whereby women stop childbearing after reaching their target family size. Contrastingly, the spacing and postponement of all birth orders influenced the slower fertility decline in Sub-Saharan Africa [2]. Moreover, Mburu and colleagues [3] make the point that the extent to which fertility desires come true is related to societal factors such as education, workforce participation, patterns of sexual partnerships, age, gender equality, and roles of women and men in childrearing.

Theoretically, subjective norms influence individuals' attitudes toward a topic. Postulates about human behavior and intentions to have a child or more children provide guidance when examining the desire for children. It has also been postulated that choices are made based on weighing costs and benefits as well as a person's values. Empirical evidence suggests women's attitudes and emotions about potential pregnancy were related to their use of contraceptives among a primarily Black sample of 130 women living in the U.S. [4]. In addition, Leyva-Moral and colleagues [5] reported that demographics as well as, health status, religion, opinion of healthcare providers and significant others, attitude towards motherhood, HIV medications, and birth control influence the reproductive decision-making process of women living with HIV in their systematic literature review. Chamberlin and colleagues [6] qualitative study reviewed that women's planning of pregnancy was reported as being related to the quality of their relationship with the child's father or how involved the father was as a partner and parent, plus their own economic situation. Given the declining fertility rates and literature suggesting human actions and reasons to have a or another child may be waning, this study seeks to describe the desire for children among women.

Desire for children

Rossin [7] suggested that women want to delay having a baby based on societal changes that impact a woman's desire for another child. Noting how marriage also occurs less and in later years in France, Rossin argued that the desire for children (DFC) later in life has increased the need for assisted reproduction. Profession, finance, health, family situation, psychological issues, and societal were listed as factors explaining the decreased DFC until later in life. Rossin did not mention race; however, population data in France indicated that more than 85% of the population is White in France. The question could be raised whether a desire to delay childbearing is associated with race.

Examining the intention of couples to have a or another child in Portugal, Matias and Fontaine [8] measured motives toward parenthood by developing a 30-item Likert-type scale with six response options ranging from not applicable (1) to completely (6). They found correlations among the following concepts

outlined in their theory: emotional enrichment and social recognition, suggesting that personal fulfillment and growth are attached to social benefits, including status acquisition, such as parenthood and gender role validation. While these authors did not report the demographics of the couples, they claimed that the decision to have or not have a child should be couples-based because the partners weigh motives for and against childbearing. However, U.S. data has shown that up to 50% of its population results from unintended pregnancies [9,10]. While the rate of unintended pregnancies has dropped in the U.S. between 2008–2011, the reasons for the high rates of unintended pregnancies in the U.S. go unexplained. As such, this study describes a woman's level of interest in having a or another child.

Hayford and Agadjanian [11] introduced the notion that a woman's desire to stop childbearing is fixed by her desire for a specific family size in Mozambique. Specifically, they claimed that the more children the woman has, the more likely she will be satisfied with her family size and, therefore, have the desire to stop childbearing. They noted that the desire for a particular family size is not fixed and fluctuates according to circumstances in Mozambique. They contend that DFC and specific family size are influenced by the perceived costs and benefits of having children, monetary and non-monetary factors, and children's role in defining and strengthening relationships, especially marriage, influencing desired family size. However, they only reported the relationship between the participant's number of children and her desire not to have another child. Factors that influence her desire for a particular family size were not examined. The meanings of having children and childbearing intentions still need to be understood. Further, the desire to stop childbearing was measured using a one-item question; 'Would you like to have (more) children in the future, even if it is not right away?'. The following response options were Yes, No, or Do not Know.

Mohammed and Assefa [12] examined determinants of desire for children among HIV-positive women in Ethiopia. These authors noted that despite consequences and challenges, women with HIV want children because children give them a sense of purpose. They found that age was significantly associated with DFC. Women ages 20–29 had the strongest DFC. The authors explained that within a society where polygamy is widespread, women might feel competitive with other wives; furthermore, children are an asset given the traditional cattle rearing. Therefore, women with more children are respected more highly in their society. While the study sheds some understanding of DFC, the investigators did not measure DFC with a valid and reliable tool. Their case-study design limits the validity of the findings. Therefore, this study looks at women from several countries using two different measures of DFC.

Using the intersectional conceptual framework, which seeks to capture the consequences of the intersection between two or more forms of systematic subordination, Wesley [13] studied DFC, pet attitudes, and loneliness among men and women living in the United States. They found Race to be related to DFC ($r = .20, p = .01$). Specifically, the Modified Index of Parenthood Motivation was used to measure DFC, and scores equal to or



less than 49.80 were categorized as weak. Those greater than 49.80 were categorized as strong based on the participants' mean DFC scores. Race was found to be significantly related to DFC ($\chi^2[3, N = 213] = 11.77, p = .00$) (Cramér's $V = .23$). In other words, participants who reported their racial identity as Black had the smallest proportion of participants with strong DFC. Forty-eight percent of the Black participants had strong DFC, compared to 73% of the White participants, 54% of Hispanic, and 65% of Asian participants had a strong DFC. While the sample was predominately women ($n = 183$) and men ($n = 33$), the study results may have been influenced by gender. Furthermore, as the intersectional framework posits, past and present experiences may explain racial differences. As such, this study examines whether race and nationality are related to DFC.

Australian women ages 30–34 years old were randomly selected from electoral polls to complete a forty-three-item questionnaire [14]. This age group was selected because they had the highest fertility rate in Australia then, and the response rate to the mailing was 46.7%. DFC was conceptualized and measured using six domains: health, interest in motherhood, lifestyle, partner, paid employment/education, and housing. Demographic variables such as employment status, marital status, living location (rural/city), housing (own/rent), and education influenced the participant's overall DFC. The author's interpretation of their analysis concluded that women's parity changed the factors most important to her DFC. This finding was the product of their analysis since the relative importance of each domain was analyzed based on whether the woman had no children, a first child, a subsequent second child, and future children. While the measure of desire for children appeared valid, the relative importance of each domain may have had a different outcome if the analysis was not based on parity. That said, this shortcoming is addressed in this study by examining age and parity's relationship to DFC.

Muluneh and Yikeber [15] as well as Bright and colleagues [16] used logistic regression models to analyze data from a 2016 Ethiopian Demographic and Health Survey and revealed that a woman's age, education, age at first marriage, religion, region, occupation, ideal number of children, number of living children, and use of contraceptives were significant determinants of desire for children. While these factors increased the odds of desire for children, the study did not tap into the intensity of DFC among the participants. Using the same data set, Wubshet and colleagues [17] took the opposite approach and examined desires to limit childbearing. They found that 37.7% of reproductive-age women didn't want more children. This suggests that most had a desire for (more) children despite economic hardships.

Frameworks

Prior research on pregnancy planning has utilized Fishbein and Ajzen's [18] Theory of Planned Behavior (TPB) [11,19]. This framework suggests that an individual's attitude is formed based on subjective norms, and perceived control may contribute to fertility intention. The theory of planned behavior suggests that positive or negative consequences of having a

child and evaluating the consequences contribute to the desire for one or another child [20]. Hayford and Agadjanian [11] made the point that desire is a precursor to intention.

The rational choice model is a central theoretical approach that informs human actions in the face of a decision-making situation. The premise of the Rational Choice Theory (RCT) entails that people consider a limited set of choices, assign consequences to them, structure them according to their importance and value, and then make optimal choices among available alternatives [21]. Rational choice theory focuses on the freewill nature of human action and the ability to make choices based on determinations of benefit and cost. Rational choice theory assumes that if the costs of having a child outweigh the benefits, DFC will be reduced, but if the benefits are more than the cost, DFC will be more.

Under the premise of rational choice theory, individuals who desire to have children weigh available options in terms of subjective preferences or values to determine possible costs and benefits. The DFC decision is based on the utility value assigned to childbearing. In other words, DFC is a rational choice action motivated by self-interest and value perception. As such, this study examines participants' attitudes toward childbearing and factors that influence the desire for children based on the Theory of Planned Behavior and the Rational Choice Theory.

Research questions

- ✓ Does desire for children (DFC) as measured by the Modified Index of Parenthood Motivation (MIPM) and the Motives Toward Parenthood Scale (MTPS) vary among women of childbearing ages 18–50 by demographics?
- ✓ Do subjective norms, consequences, and individual costs and benefits of motherhood relate to DFC?

Methodology

Grove [22] suggests that a post hoc power analysis should be conducted to determine power and the probability of a type II error (Beta). Influenced by significance level, sample size, and effect size, beta is one minus beta or the probability of a type II error. This study was based on an alpha of .05, a sample size of 218, and an eta square of .035 between employment and DFC. A beta of .91 suggests we had a 91% probability of correctly rejecting the null that there is no relationship between DFC and employment in SPSS.

Participants of this online descriptive correlational study were recruited from a Qualtrics panel. The study criteria included women ages 18–50 since the median age of menopause among women globally ranges between 42 and 52 [23]. Participants had to be able to read and understand English, as well as access and use email. A total of 241 people visited the web link, and 228 were eligible and completed the surveys.

The desire for children was measured using two separate tools. The Modified Index of Parenthood Motivation (MIPM) is

a 14-item self-reporting tool. It was designed to evaluate the intensity of DFC among Black women straightforwardly and inexpensively [13]. Easy to read and comprehend, the items are set on a five-point Likert-type scale that can be completed in less than 5 minutes. The MIPM utilizes a five-point Likert-type scale, with scores on each item ranging from 1 (strongly disagree) to 5 (strongly agree), considering the direction of the item and reverse scoring that item. Total scores on the modified index range from 14 to 70. The higher the score, the greater the desire for children.

Content validity has been established, and reliability coefficients ranging from .72 to .85 have been reported (Wesley et al., 2014). A good reliability coefficient of .80 was found among the participants of this study. Using the same 5-point Likert scale to measure subjective norms, the following items from the MIPM were used:

- ✓ *Motherhood limits a woman's chances for achievement and self-expression, A reason for having children is to feel useful and needed*
- ✓ *A reason for having children is to have someone to love and someone to love me.*

The Motives Toward Parenthood Scale (MTPS) was the other tool measuring participants' desire for children. This measure allows for a comprehensive evaluation, analysis, and further understanding of respondents' desire to have children/ a child. The MTPS consists of 30 items, grouped into four subscales: Emotional Enrichment, Social Recognition, Lifestyle Interference, and Anticipation of Problems. Items from all subscales use a six-point Likert Scale ranging from 1 (completely disagree) to 6 (completely agree). The total scores on the MTPS range from 30 to 180. The higher the score, the greater the subscale domain scored. The authors reported that the MTPS has good psychometric properties and indicated that exploratory and confirmatory factor analyses established the content validity and reliability coefficients that ranged from .74 to .87⁸. A good reliability coefficient of .89 was found among the participants of this study. Positive consequences were measured on the same 6-point Likert-type scale with items from the MTPS, such as:

- ✓ *To continue the family name.*
- ✓ *To have someone to inherit what I am building in life.*
- ✓ *To have someone to achieve what I have not yet managed.*

Negative consequences were measured on the same scale as items from the MTPS, such as:

- ✓ *The child could disappoint me.*
- ✓ *The child might not be healthy.*
- ✓ *The child could raise tensions in the relationship with my partner.*
- ✓ *I could transmit a disease to the child.*

Ethical consideration

Kean University Institutional Review Board (IRB) approved this research study before participants were recruited and data collection started (IRB Identification number: IRB00005690). Once approved by IRB, participants were informed of the study purpose, procedure, risks/benefits, and their right to withdraw from the study at any time. Assurances were given that confidentiality would be maintained, and only aggregated data would be shared. Data collection began after participants clicked on the link 'I agree to participate. The survey was administered to participants via Qualtrics, and data was collected in May 2021.

Data analysis

Descriptive statistics included frequencies and percentages with means and standard deviations as appropriate. Spearman and Pearson's correlations were used to test the strength and direction of relationships among the variables. ANOVA was performed to assess differences among more than two groups. The level of statistical significance was defined as an alpha of 0.05. Analyses were conducted using Statistical Package for the Social Sciences (SPSS) Version 28.0.

Results

The descriptive statistics are shown in Table 1. This sample of 228 women, predominately (37%) Black, were, on average, 29 years old ($SD = 7.6$). Most (63%) of the sample were college-educated, 23% had at least one child, 48% had no children, and 45% reported never being pregnant. A mean score of 48.38 on the MIPM indicates the women had DFC since they were slightly above the MIPM midpoint of 42. A mean score of 107.78 on the MTPS indicates the women had DFC since the MTPS midpoint is 105. In addition, linear regression showed that the number of children women reported was found to be related to her DFC score $R^2 = .04$, adjusted $R^2 = .03$, $F(1, 209) = 8.05$, $p = .00$. The scores indicated that women with increased DFC reported a greater number of children than those with less DFC. Further, the R^2 values suggest that approximately 4% of DFC was explained by the number of children the women reported.

The Theory of Planned Behavior posits positive or negative consequences and subjective norms that impact DFC. Positive consequences and subjective norms were measured using eight items from Matias and Fontaine's [8] MTPS. As shown in Table 2, the 6-point Likert scale ranged from 1 (completely disagree) to 6 (completely agree), indicating that the participants agreed with the positive consequences but disagreed with the subjective norms. The participants disagreed with the negative consequences of having a child, or more children. Specifically, the sample's mean scores were less than 3, indicating that they disagreed with the consequences of having a child, or more children.

The Rational Choice Model posits that the costs and benefits of motherhood are weighed when making choices and was measured using items from Wesley's [13] MIPM. As shown in



Table 3, the participants disagreed with the items that measured cost but had mixed views on the benefits. The 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree), considering the direction of the item. In addition, the benefits of motherhood were found to have a significant correlation with the number of children ($r = .14, p = .04$).

As shown in Table 4, bivariate correlations were run to determine the strength and direction of the relationships between the variables. Spearman statistics revealed that MIPM was related to years of education ($r = .22, p = .001$) and employment ($r = .33, p = .001$). Those who reported being employed with increased education also reported higher

Table 1: Descriptive Results.

Study Variables	Mean	SD
MIPM Score	48.38	9.46
MTPS Score	107.78	21.93
1) Subscales of Emotional Enrichment	36.54	8.19
2) Subscales of Social Recognition	25.36	9.70
3) Subscales of Lifestyle Interference	32.54	9.10
4) Subscales of Anticipation of Problems	12.38	5.92
Age	29	7.57
Number of children the woman has	.95	1.15
Parity	1.17	1.44
Race/ethnicity	#	%
1) Black	84	37%
2) White	44	19%
3) Hispanic	43	19%
4) Asian	46	20%
5) Mixed	11	5%
Nationality – Birthplace	#	%
1) USA	28	12%
2) Nigeria	36	16%
3) Ghana	26	12%
4) United Kingdom	21	9%
5) India	25	11%
6) Philippines	24	10%
7) Columbia S.A.	23	10%
8) Honduras	21	9%
9) Dominican Republic	24	11%
Education	#	%
1) Primary/Grade school	5	2%
2) Secondary/High school	37	16%
3) Some College/Trade school	42	19%
4) College graduate	144	63%
Housing	#	%
1) Rent	113	49.6%
2) Own	115	50.4%
Employed	#	%
1) No	86	38%
2) Yes	142	62%

Table 2: Framework Posits.

Positive Consequences of Motherhood	Mean	SD
To give me financial support in my old age.	3.27	1.58
To try not to repeat the mistakes my parents made with me.	3.04	1.65
To continue the family name	3.54	1.69
To have someone to inherit what I am building in life	3.94	1.53
To have someone to achieve what I have not managed to.	3.47	1.66
Subjective Norms		
Because one is fully accepted in society only when one has children.	2.77	1.62
Because a girl only turns into a woman after she is a mother.	2.75	1.68
For religious reasons.	2.64	1.62
Negative Consequences of Motherhood		
(S) he could disappoint me.	2.37	1.46
The child might not be healthy.	2.67	1.42
It could raise tensions in the relationship with my partner.	2.51	1.47
I could transmit a disease to him/her.	2.33	1.43
I do not want to go through the discomfort and physical changes associated with pregnancy, birth, and breastfeeding.	2.55	1.57

Table 3: Rational Choice Theory Posits.

Costs of Motherhood	Mean	SD
Motherhood limits a woman's chances for achievement and self-expression'.	3.74	1.29
A problem with having children is that they stop you from getting a job'.	4.03	1.16
A problem with having children is that there are too many responsibilities'.	3.12	1.37
Benefits of Motherhood	Mean	SD
A reason for having children is to feel useful and needed	2.49	1.30
A reason for having children is to have someone to love and someone to love me.	3.66	1.31

r is a reverse scored item (strongly agree = 1 and strongly disagree = 5)

Table 4: Spearman Correlation Coefficients.

	1	2	3	4	5
1. Years of Education	1.00				
2. Housing	0.10	1.00			
3. Employment	.328**	0.02	1.00		
4. Total MTPS	-0.04	0.09	-0.07	1.00	
5. Total MIPM	.219**	-0.05	.200**	-0.06	1.00

** $p < .01, *p < .05$

levels of DFC. A one-way analysis of variance was conducted to evaluate the relationship between employment status and DFC. The ANOVA was significant $F(1, 217) = 7.95, p = .005$. As assessed by Eta Square, the relationship between employment and DFC was weak, with employment accounting for 4% of the variance in DFC.

Similarly, an ANOVA was conducted to evaluate the relationship between education and DFC and found significant $F(3, 215) = 5.38, p = .001$. As assessed by Eta Square, the relationship between education and DFC was weak, with

education accounting for 7% of the variance in DFC. The MTPS total scores were not found to be related to any of the categorical demographic variables.

While not shown in Table 4, positive Pearson correlations were found between MIPM and the following: the number of children ($r = .19, p = .00$), parity ($r = .17, p = .01$), MTPS subscales: Emotional Enrichment ($r = .57, p < .001$), and Social Recognition ($r = .77, p = .01$) indicating that participants with an increased number of children and parity also reported increased scores on the MIPM as well as increased scores on the Emotional Enrichment and Social Recognition subscale. Inverse relations with Lifestyle Interference ($r = -.46, p < .001$) and Anticipation of Problems ($r = -.45, p < .001$) demonstrated that as scores on the MIPM decreased, scores on the Lifestyle Interference and Anticipation of Problems subscales increased. The more DFC, the less anticipated problems and interference with lifestyle. As expected, the MTPS total scores were related to MTPS subscale scores in the appropriate direction. However, unlike the MIPM total score, the MTPS total scores were not found to be related to any of the continuous demographic variables. Furthermore, the MIPM and MTPS total scores were not related.

A one-way analysis of variance was run to determine whether there were significant differences in mean DFC scores among the nationalities. ANOVA results indicated there were no significant differences among the MTPS mean scores by nationality $F(8, 212) = 1.05, p = .39$. However, significant differences were found among the MIPM mean scores $F(8, 208) = 4.38, p < .001$ (Table 5). Moreover, the eta square for the MIPM was .14 and = .04 for the MTPS, indicating little to no relationship between nationality and DFC by both tools. Since the f ratio was significant for the MIPM scale, follow-up tests were conducted to evaluate pairwise differences among the nationality means on the MIPM scale. There was a significant difference between Nigeria and Colombia ($p = .004$), Ghana and both Colombia ($p = .011$) and Honduras ($p = .034$), the Philippines and both Colombia ($p = .005$) and Honduras ($p = .017$). As shown in Table 5, Colombia and Honduras had significantly less DFC than women from Nigeria, Ghana, and the Philippines.

Similar to nationality, overall ANOVA results for race were not significant for MTPS $F(4, 213) = .89, p = .46$, but were significant for the MIPM scale $F(4, 217) = 4.39, p = .002$. The Eta Square results = .02 for the MTPS and = .08 for the MIPM, also indicating very little to no relationship between race and DFC on both tools. Since the f ratio was significant for the MIPM scale, follow-up tests were conducted to evaluate pairwise differences among the race means on the MIPM scale. As shown in Figure 1, Blacks had significantly greater DFC than Whites and Hispanics.

Discussion

Despite different cultural backgrounds and geographic locations among the sample, this study's findings indicate that women desire children. This interpretation of the tools' mean scores was supported by the items used to measure the positive

Table 5: Mean DFC Scores by Nationality.

Nationality	MTPS		MIPM	
	Mean	SD	Mean	SD
USA	108.55	23.41	45.44	11.93
Nigeria	107.00	15.78	52.09	7.22
Ghana	101.91	15.97	51.92	5.99
United Kingdom	103.15	23.71	47.75	9.08
India	116.64	30.06	49.42	10.57
Philippines	109.41	13.59	52.63	8.65
Colombia	109.04	28.60	42.33	5.84
Honduras	102.75	18.69	43.29	9.95
Dominican Republic	104.80	19.37	47.36	9.46

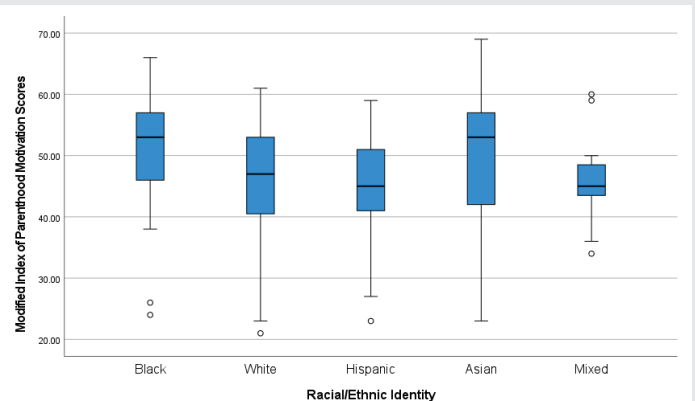


Figure 1: Differences in DFC by Race/Ethnicity.

and negative consequences of motherhood, subjective norms as well as cost and benefits of motherhood.

Scores on both measures of DFC provide a picture of the levels of DFC among women of childbearing age. DFC differed due to perceptions of consequences and subjective norms and the demographics of race, nationality, education, employment, and the number of children. Unlike Hintz and Haywood [24] and Rossin [7] who reported that professional status limits DFC, this study found that increased education, a surrogate for professional status, was related to increased DFC—suggesting that women with more education had greater DFC than those with less education. Given the likelihood that education is a good proxy for professional status, this cross-sectional study does not support claims that women with a professional job would have decreased DFC. This study finds that a positive correlation between employment and DFC suggests that women with employment, perhaps professional jobs, had increased DFC compared to those without employment.

Moreover, this study's finding that increased age was not related to increased DFC casts doubt on Rossin's claim that women postpone motherhood to an older age. The timing of having a child may indirectly impact the total number of children for a woman who waits until age 40 for their first child compared to a woman who has her first child in her twenties. Relative to voluntary childlessness, the present study showed that women did not indicate that social norms were related



to their DFC. Hintz and Haywood's [24] study of voluntary childlessness examined how different types of media shaped the culture and opinions of women who do not have children because they did not want children for various reasons.

While unintended pregnancy may or may not be an indicator of a lack of DFC, the timing of pregnancy may require a longitudinal study to parse out more fully the consequences of DFC. Moreover, linear thinking, relative to DFC, may pose a challenge since an individual's pregnancy timing may vary by geographical location, social norms, cultural expectations, and the woman's internalization or valuing of those social norms imposed by the larger society. Nevertheless, the point remains that numerous nations are experiencing declining fertility rates, and if women had a weak DFC, then we would expect lower levels of DFC among the sample. On the other hand, scores from this study do not suggest women had a strong DFC. The average scores on both tools would need to be 56 on the MIPM and 121 on the MTPS to be in the 75th percentile, indicating a strong DFC. In other words, the mean scores for DFC on both measures were above the midpoint of possible scores, indicating a level of DFC but not a solid or intense degree of DFC. While not an epidemiological study like that of Wubshet and colleagues [17], Muluneh and Yikeber [15], or Bright and colleagues [16], this study's measures of DFC shed light on factors contributing to global fertility rates.

Relative to theory, the claim that "subjective norms influence a woman's DFC" by Fishbein and Ajzen [18] does not account for changes over time, according to LaMorte [25]. As such, this cross-sectional study showed that participants disagreed with the items used to measure subjective norms. It would be fair to say that the participants did not feel that 1) "one is fully accepted in society only when one has children" and 2) "a girl only turns into a woman after she is a mother." This may be due, in part, to the notion that women across several nations have multiple sources of fulfillment, or they feel society gives them other options.

The rational choice theory believes costs and economic and emotional costs are weighed when making decisions. Measurements used in this study found that employment, a surrogate for economics, was related to DFC. Like Riggs & Bartholomaeus [19], employment status was related to DFC and actual and perceived circumstances. However, negative consequences and costs played less of an influence on women's DFC, given the participant's disagreement with costs and negative consequences and agreement with the benefits and positive consequences of motherhood. As expected, the Emotional Enrichment and Social Recognition subscales were related to the number of children and parity. This suggests that the attitudes toward motherhood influence DFC, as postulated in both the theory of planned behavior and the rational choice theory.

Although correlations do not imply causation, the findings indicate that relationships among DFC, nationality, and race demonstrate support for a woman's desire for children may vary as a function of her race and nationality. Specifically, in this study, women from Colombia and Honduras had

significantly less DFC than participants from Nigeria, Ghana, and the Philippines. This may be due to culture, social policy, or contextual characteristics. As described by Akinyemi and Odimegwu [26], fertility desires are influenced by geo-political regions in Nigeria or higher levels of negative attitudes toward family planning among both men and women. Akinyemi and Odimegwu demonstrated that a larger portion (71%) of men compared to women (53%) ages 15-24 wanted four children. Further, Church and colleagues' [27] thirty-year review of the literature supports the evidence that men and women from Sub-Saharan Africa (SSA) have high fertility desires. Compared to this online study of only women from several countries who were, on average, 29 years old, which were many years older than Akinyemi and Odimegwu's sample, many had never been pregnant, and 48% of the women had no children. This suggests that contextual factors, social policy, and culture are changing in favor of low fertility. Church and colleagues [27] also concluded that social context can support or disrupt fertility desires. Relative to race, whether the women of this study were living in SSA or USA, Blacks had significantly greater DFC than Whites and Hispanics. While both measures of DFC, MTPS & and MIPM revealed statistically significant differences in mean scores by nationality and race, the small eta squares for nationality (4% to 14%) and race (2% to 8%), respectively, indicate little of DFC is explained by nationality and race.

In summary, the current analysis demonstrates that desire for children (DFC), as measured by the Modified Index of Parenthood Motivation (MIPM) and the Motives Toward Parenthood Scale (MTPS), is present among women of childbearing age. While women in this study may not have an intense DFC, their scores revealed relationships with demographics and theoretical posits. As such, future longitudinal research could help examine contextual variations in culture and social policies relative to fertility rates. Moreover, future research that explores the subjective norms, consequences, and individual costs and benefits of motherhood may reveal why women lack a strong DFC in the early 21st century.

Strengths and Limitations

This study adds to the body of knowledge on women's desire for children (DFC) in several countries globally. Specifically, this study demonstrated that the participant's employment and education were related to DFC. Moreover, DFCs varied by nationality and race. While the findings of this study are noteworthy, interpretations should be cautioned due to the inherent limitations of a survey design. The first limitation is that the study's cross-sectional nature did not assess participants' DFC over time. Historically, Gerson's [28] postulates imply that DFC is an interactive process that includes the need to love and be loved, which can vary over time as a woman passes through different phases of life. Today, feelings toward future pregnancies and childbearing may also change over time. However, Gomez and colleagues' [29] qualitative studies showed that structural inequities limit reproductive self-determination among young (ages 18-24) adults, producing a gap between desired and actual childbearing.



A second fundamental limitation is that a Qualtrics recruitment panel may not represent women of childbearing age who need access to technology or online surveys. Furthermore, the opt-in nature of the panel limits the ability to compare this sample to one produced through random sampling techniques.

Implications

Findings from this study can be used to inform future research regarding fertility rates as well as develop educational interventions. Professionals working in family planning can gain insight and an understanding of reproductive decisions and factors related to a woman's DFC from this study. As demographics are shifting and becoming more diverse, the study focuses on the similarities of motives that underline DFC among women [30]. That is, scales used in this study contrasted the costs and benefits of motherhood to determine the intensity of DFC. When policymakers and health professionals are developing programs for women of childbearing age or designing educational interventions built on study data, they should acknowledge variances among women of different nationalities and races and the influence of employment and education in this target population.

Conclusion

Fertility rates continue to decline globally, and there has been debate about the factors driving this trend. This study supports the notion that DFC is related to a woman's demographics which is similar to prior findings from Monika and Jolanta, Hayford and Agadjanian and Matias and Fontaine. Moreover, this study revealed that individual costs and benefits outweigh subjective norms. Perhaps today's women are less influenced by subjective norms as measured in the study and more influenced by their own personal costs and benefits relative to DFC. Finally, this study broadened the conversation regarding declining fertility rates and revealed inconsistent measures of DFC, suggesting the need for further research.

Précis statement

This study supports empirical evidence that DFC is related to a woman's demographics and personal benefits of motherhood outweigh the cost of having a child.

Callouts

- 1) A desire for children later in life may increase the need for assisted reproduction among women.
- 2) Motives toward motherhood include but are not limited to emotional enrichment, social recognition, personal fulfillment, and gender role validation.
- 3) The rational choice theory implies how people consider options, weigh costs according to the person's values, and then make a choice.

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