

Shedding light on attitudes towards pregnancy among Inuit adolescents from Nunavik

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ABSTRACT

Better understanding attitudes toward pregnancy – a potent predictor of adolescent pregnancy – could help explain the high adolescent pregnancy rate in Nunavik, Canada. The objective of this study was to assess the distribution of different attitudes toward pregnancy and the factors associated with high pregnancy likelihood attitudes (HPLA; favourable, indifferent, and ambivalent), focusing on the perceived benefits of childbearing (BOC). T-tests, chi-square tests, and logistics regressions were performed based on the answers of 159 Inuit women aged 16 to 20 years from the *Qanuilirpitaa?* survey. About 43% were ambivalent, 16% favourable, 5% indifferent, and 35% unfavourable toward pregnancy. Bivariate analysis indicate that the HPLA group was more likely to work, to report less frequent positive interactions, and to show a higher BOC score compared to others. Multivariate analysis show that an increased BOC score was associated with HPLA (OR = 1.09, 95% CI = 1.01 – 1.18). Perceiving that a baby would strengthen the relationship with the other parent (OR = 1.65, 95% CI = 1.15 – 2.37) and that it would help to access housing were individually associated with HPLA (OR = 1.45, 95% CI = 1.02 – 2.10). Findings provide evidence to support Inuit adolescents' reproductive choices.

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Introduction

This investigation of adolescent pregnancy¹ in Nunavik emerged from extensive consultation in 2015 in Kuujuaq during the planning of the Nunavik Inuit Health Survey *Qanuilirpitaa?* 2017. Key Inuit representatives, including mayors, health professionals, midwives, and public health authorities, from the Ungava and Hudson coasts in Nunavik (a northern region of Quebec, Canada) were asked about themes and topics that should be prioritised in the survey [1]. They expressed a desire to advance their knowledge regarding adolescent pregnancy in order to improve their services, resources, and support for young women. Thus, the ultimate goal of this study was to provide a deeper understanding of adolescent pregnancy from a social psychology perspective by shedding light on the complexity of attitudes towards pregnancy and exploring their associated factors.

According to the *Qanuilirpitaa?* 2017 survey, 75% of Inuit women aged 16 to 30 years old reported having

experienced their first pregnancy between 16 and 20 years old [2]. Despite this high rate, the impacts and predictors of adolescent pregnancy have not been extensively studied in Nunavik. To our knowledge, only two studies have explored early pregnancy among Nunavimmiut² [3,4], and their results appear consistent with research from general populations, which depict adolescent pregnancies as associated with less favourable health and behavioural profiles for both the mother and the child [5–7]. On the other hand, several positive aspects of early childbearing and motherhood are found in qualitative studies conducted among Indigenous and non-Indigenous populations. Early motherhood can be a transformative experience, resulting in positive life changes through the affirmation of the mothering role [8], development of new life aspirations [8,9], enactment of responsibilities and healthy activities as well as avoidance of excessive substance consumption [10–12]. Traditionally and still today,

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¹The World Health Organization (2014) [67] defines adolescent pregnancy as a pregnancy occurring in women aged 19 years or younger.

²Inuit from Nunavik.

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Nunavimmiut describe themselves as family oriented [13]. The birth of a child is always celebrated [13] and children are explicitly described as a blessing [2]. Young girls are often invited to care for younger siblings and to participate in the duties associated with raising them [13]. Pregnancy and motherhood are valued and seen as honourable; pregnant women enjoy great care and attention from community members [11]. Such practices and values have the potential to shape one's attitude towards pregnancy [14], a known strong predictor of reproductive choices [15].

Attitudes toward pregnancy

In the only study that aims to explain adolescent pregnancy among Inuit [9], Inuit participants commonly described the high rate of adolescent pregnancy in northern regions as “the result of carelessness”, which we refer to as indifference. Indifference is one of the major attitudes frequently assessed in pregnancy-related studies among non-Indigenous populations [16–19]. This attitude refers to absent or few negative and positive thoughts or emotions [20], about a potential pregnancy. Being favourable, unfavourable, or ambivalent are also frequently assessed attitudes in reproductive health studies. To be favourable refers to showing mainly positive thoughts or emotions towards pregnancy; and being unfavourable corresponds to manifesting mainly negative thoughts or emotions [21]. Ambivalence is defined as the simultaneous occurrence of strong negative and positive thoughts or emotions [21]. Altogether, these attitudes capture subtle ideas and feelings, and position women's reproductive views along a nuanced spectrum.

These attitudes are often studied in social psychology by applying [22] Planned Behaviour Theory (PBT). PBT helps explain the link between attitudes, intentions, and behaviours. According to this theory, an attitude (and social norms and self-efficacy) influences behavioural intention, which determines the behaviour itself [23]. If we focus only on attitudes, an example of applied PBT is that being favourable towards pregnancy will influence one's reproductive choices such as the decision to use (or not use) contraception [24,25]. The same pattern was observed for the indifferent attitude with low use of contraception [17]. Even though indifference and being favourable to pregnancy are attitudes that have been associated with inconsistent or low use of condoms or contraception, the ambivalent attitude has been of utmost interest in reproductive research for diverse reasons [15]. First, its association with contraceptive habits and pregnancy has been repeatedly demonstrated transversally and longitudinally in Western and BIPOC (Black,

Indigenous, and People of Colour) populations [17,18,25–31]. Studies show that ambivalence towards pregnancy affects the ability to intentionally choose whether one wishes to use contraceptives [32,33], which is related to inconsistent use of contraceptives [17,25,31] and therefore adolescent pregnancy in the short or long term [17,18,28]. A longitudinal study reported that girls aged 16 to 18 years who showed ambivalence at the baseline were two to three times more likely to become pregnant in the following 12 months compared to those who were unfavourable [28]. Second, a large number of young adults show ambivalence toward pregnancy. A study of 1,377 women aged 15 to 24 in the USA showed that 53% were ambivalent, 44% were unfavourable, and 4% were favourable toward pregnancy [34]. Third, the association between ambivalence and contraceptive use seems to be greater among women than among men. A review of 8,360 women from six systematic reviews and meta-analyses demonstrated a significant association between ambivalence toward pregnancy and non-use of contraception among women specifically, as the association was not significant in men [35]. This review reports that women who are ambivalent toward pregnancy are roughly 2.5 times more likely not to use contraception [35]. Documenting attitudes that are most likely to contribute to pregnancy – namely, being indifferent, favourable, and ambivalent – in a context where there is no knowledge of their actual presence in Nunavik is important.

Factors associated with attitudes toward pregnancy

Pregnancy attitudes can be associated with different sociodemographic, psychosocial, behavioural, and sociocultural factors. A cross-sectional study of 1,388 women aged 16 to 40 years from the USA reported that ambivalent women were more likely to be younger, not have experienced a previous pregnancy, to have had more sexual partners in the last month and their lifetime, and, finally, to be victims of violence, compared to non-ambivalent women [36]. Similarly, [37] noted that the probabilities of being ambivalent towards pregnancy declined with age and with the number of children. Another study among 4,869 girls aged 16 to 18 years in the USA indicated that female adolescents who were currently in a romantic relationship were more favourable towards pregnancy than those who were not in a relationship [28]. Moreover, among the 3,771 women aged 25 to 45 surveyed in the US National Survey of Fertility Barriers, those who were favourable toward pregnancy placed higher importance

on motherhood and positive fertility intentions than those who were ambivalent [37]. Adolescent and adult women who showed ambivalence scored higher on depression and perceived stress scales compared to non-ambivalent women [36,38]. Only a few studies have focused on sociocultural factors, such as the perceived benefits of motherhood and childbearing, as predictors of pregnancy-related attitudes [12,34,39]. For example, in their sample of 1,377 women aged 15 to 24, 55, reported that those who were ambivalent perceived more benefits of childbearing than those who were unfavourable. They also indicated that perceiving numerous benefits of childbearing was associated with a subsequent pregnancy in the following year [34]. Applying these results to Indigenous populations such as Inuit without culturally adapting the scale would ignore contextual and cultural specificities. To our knowledge, there is currently no culturally adapted scale to measure the benefits of childbearing in Inuit populations.

The objective of this study is to improve our understanding of adolescent pregnancy among Inuit women in Nunavik by (1) assessing the distribution of attitudes toward pregnancy; (2) determining the sociodemographic, psychosocial, sociocultural, and behavioural factors that are associated with those linked with high pregnancy likelihood attitudes (HPLA; indifferent, favourable, and ambivalent); and (3) if perceived benefits of childbearing is significantly associated to HPLA, determining which have a unique contribution. Better understanding attitudes that most likely to lead to pregnancy and the factors associated with these attitudes can contribute to the design of culturally appropriate programs that support adolescents' reproductive choices.

Materials and methods

Study population and procedures

Data for the current study were drawn from the Nunavik Inuit Health Survey *Qanuilirpitaa?* 2017. Conducted in the 14 communities of Nunavik, this population health survey aimed to provide an up-to-date portrait of the health status of Nunavimmiut and was designed to be representative of the population aged 16 and over. An important step in the planning of the survey was to respond to the needs and priorities raised by Nunavimmiut during the 2015 consultation process. From these consultations, research topics were selected according to their feasibility (cost, methodology, equipment, etc.), usefulness as well as relevance for the community. Examples of priority research topics

documented in the survey are mental health, substance use, physical health, food security, as well as sexual and reproductive health. The survey relied on multiple partnerships with all major Nunavik organisations (e.g. Nunavik Regional Board of Health and Social Services, Makivik Corporation, Kativik Regional Government, Kativik Ilisarniliriniq, Avataq Cultural Institute, Qarjuit Youth Council, Inuulitsivik Health Centre, Ungava Tulattavik Health Centre) following the OCAP® (ownership, control, access, and possession) principles [40]. The decision-making structure of the survey was coupled with the active involvement of community members and intended to allow Nunavimmiut to steer all phases of the survey. Along with the main regional leaders and key representatives of Nunavik, the Nunavik Regional Board of Health and Social Services chaired the Steering Committee and was responsible for the overall survey in close partnership with the Institut national de santé publique du Québec [1]. The Data Management Committee of *Qanuilirpitaa?* 2017 has revised and approved this paper. The ethics research board of the Centre hospitalier universitaire (CHU) de Québec – Université Laval approved this project (approval number: 2016–2499).

Participants aged 16 years old and over were invited on board the *Amundsen*, a Canadian Coast Guard ice-breaker, for data collection in 2017 using computer-assisted questionnaires available in Inuktitut, French, and English (89% of our sample preferred the English version). Written informed consent was obtained from each participant after viewing a video explaining the aims and study procedures of the survey. Each participant was given a \$75 grocery store gift card as compensation for taking part in the three-hour visit. Detailed information about the survey is provided in the *Methodological Report* [1].

Measures

Attitudes toward pregnancy

Many studies assessed attitudes toward pregnancy in documenting intentions to get pregnant [41], pregnancy readiness [36] and trying or wanting a pregnancy [7,32,36,37,42]. These scales were not selected in the present study since our Inuit partners explained that “planning”, “trying” or “intending” a pregnancy is not part of the Inuit culture.

To our knowledge, there are no validated scales measuring attitudes toward pregnancy among Indigenous populations. Accordingly, attitudes toward pregnancy was derived from two questions about attitudes toward a hypothetical pregnancy previously used

in studies among non-Indigenous youth and young adults [16,19,25,42]. The scale assesses two dimensions of an attitude: cognitive and affective. Respondents were first asked about the importance of avoiding pregnancy (cognitive dimension): “Thinking about your life right now, how important is it for you to avoid becoming pregnant?” Next, they were asked about their feelings about a potential pregnancy (affective dimension): “If you found out today you were pregnant, how would you feel?”. For the first question, answers were measured on a scale of 1 (very important) to 4 (not important; do not know), and the second question had five choices of answers (very upset, a little upset, a little pleased, very pleased, did not care, do not know). Based on the above mentioned studies, we combined the two questions to create an exclusive four-category measure of attitudes toward pregnancy: indifference (somewhat, little, or not important to avoid pregnancy/wouldn’t care), favourable (little or not important to avoid pregnancy/little or very pleased), unfavourable (very important to avoid pregnancy/little or very upset), and ambivalence (midpoint scale in both items [somewhat or little important/little upset or little pleased] or inconsistency between both items [important to avoid a pregnancy/would be little or very pleased; not important to avoid a pregnancy/would be little or very upset; very important to avoid a pregnancy/wouldn’t care]). Attitudes were then dichotomised based on their associated pregnancy likelihood: low (being unfavourable – reference category) and high pregnancy likelihood attitudes (HPLA; being favourable, ambivalent, or indifferent), as it was combined in previous studies [17,30,38].

The variable construction considers that the first question is unipolar (*very important* to *not important*), and that the second is bipolar (*very upset* to *very pleased*). For favourable and unfavourable attitudes, we collapsed the first two categories of each question: favourable (*little or not important/little or very pleased*) and unfavourable (*very important/little or very upset*). For ambivalence, we used the midpoint scale in both items or inconsistency between both items. For indifference, we used answers that refers to carelessness or lack of importance (e.g. *somewhat, little, or not important to avoid pregnancy/wouldn’t care*).

Sociodemographic factors

Based on the literature, the following factors were considered as potentially associated with HPLA: age (continuous variable), education level (0 = did not graduate secondary school [secondary 4 or less], 1 = graduated secondary school [secondary 5 or more]), working

status (0 = no work [other], 1 = work), marital status (0 = single, 1 = in a relationship [married or common-law relationship]), coast of residence (0 = Ungava Coast, 1 = Hudson Coast), and past year income (0 = over \$20k, 1 = under \$20k), lifetime pregnancy (“Have you ever been pregnant?” [0 = no, 1 = yes]), pregnancy in the last 12 months (0 = not pregnant, 1 = pregnant), current pregnancy (0 = not pregnant, 1 = pregnant), and children given in adoption [0 = none, 1 = at least one; 22].

Psychosocial factors

Based on previous studies, social support and depressive symptoms were also taken into account. We documented perceived positive interactions and affection and intimacy with close friends and family (i.e. social support) from the *Aboriginal People Survey*, which includes First Nations and Inuit [43]. Positive interactions (“How often do you have someone to have a good time with?”) was scored on a Likert scale ranging from 1 (never) to 5 (all of the time). As for perceived affection and intimacy (“How often do you have someone who shows you love and affection?”), a dichotomised score was created based on the normality of the distribution (0 = sometimes, rarely, or never; 1 = most of the time or all of the time). Depressive symptoms over the past week were assessed with the 10-item short form of the Centre for Epidemiological Studies Depression Scale [CES-D-10; 49], which was validated with a North American Indigenous youth population [44]. Items were answered on a four-point scale of 0 (rarely or none of the time) to 3 (all the time). In our sample, the total CES-D-10 score ranged from 2 to 24 (Cronbach $\alpha = 0.93$). A high score indicated greater depressive symptoms.

Behavioural factors

Sexual behaviours such as the number of sexual partners in the last year (0 = two or less, 1 = three or more) and condom use at the latest sexual intercourse (0 = yes, 1 = no) were also considered [1].

Sociocultural factors

One’s appreciation of connectedness [45] to Inuit and non-Inuit cultures was taken into account as a continuous score on a five-point Likert scale from 1 (strongly agree) to 5 (strongly disagree). The six items are: *I feel most comfortable around other Inuit; I feel comfortable with non-Inuit; I feel connected to other Aboriginal peoples in general; I have a close connection to Elders in my*

community; I have close connections to young people in community; and I feel homesick when I am away from my community. A total score was calculated by summing reversed scores on individual items. In our sample, Cronbach's alpha barely meets the standard criteria, and is lower (Cronbach $\alpha = 0.52$) than the one observed in the whole survey sample (Cronbach $\alpha = 0.65$). A high score indicated high levels of connectedness.

The benefits of childbearing and parenthood were assessed with the Benefits of Childbearing (BOC) scale [34]. Following consultations with Inuit representatives, five items out of nine were selected: *Having a baby ... (1) would give me someone to love or would mean somebody will love me; (2) would make me feel important; (3) would give me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.); (4) would make my relationship with the other parent stronger; and 5) being a mother would be special, a baby is a blessing* (Cronbach $\alpha = 0.75$). In order to increase the cultural relevance of the scale, Inuit partners suggested referring to a hypothetical child and to add three items: *Having a baby ... would make me feel like I fit in with other women/men of my age; would help me get a house; and would give me a purpose in life or a role in society*. The culturally adapted scale encompassed eight items answered using a five-point Likert scale from 0 (strongly disagree) to 4 (strongly agree), and showed good reliability (Cronbach $\alpha = 0.86$). The total score was calculated by summing responses and varied from 8 to 32. A high score indicated greater positive views of motherhood [2,34].

Statistical analysis

Missing data varied from 0 to 19%. They were considered to be missing at random (MAR) after the examination of the mean difference between the participants with and without missing data for each variable. Still, missing data were addressed using the approach of full information maximum likelihood (FIML) to estimate the model parameters. Analyses were performed with Monte Carlo integration via Mplus 8.3 software [46].

T-tests and chi-square tests were performed to determine if there was a significant difference between the high and the low pregnancy likelihood attitudes groups on sociodemographic, psychosocial, behavioural, and sociocultural factors. Since having experienced a previous pregnancy is very likely to influence one's current attitude toward pregnancy, all following analyses systematically controlled for lifetime pregnancy. A logistic regression using block entry of variables was next performed to identify which of the factors were associated with HPLA when considered simultaneously.

Only factors associated at $p < 0.20$ with the HPLA were included in this regression (not shown). The order of entry of the independent variables was determined based on their cultural and scientific relevance. They were included hierarchically by blocks. We first entered sociocultural factors, followed by psychosocial and sociodemographic factors. Individual logistic regressions were conducted afterwards to assess the association between items of the BOC scale and the HPLA.

Results

Out of 1,326 Nunavimmiut who participated in the survey, 172 women aged 16 to 20 years were recruited, and 159 of them answered two questions on attitudes toward pregnancy. Table 1 describes the sample's characteristics. Overall, participants were 18 years old on average, about one out of five were in a relationship, and one out of four had not completed secondary school. Four out of ten had previously had a pregnancy, about a quarter were pregnant the year before the survey, and, among them, one woman out of ten was pregnant at the time of the survey. Among young women who had experienced pregnancy, 6% gave a child for customary adoption. A third of the sample were unfavourable, further considered as the low pregnancy likelihood attitude group. Almost half

Table 1. Sample characteristics.

	N	Mean \pm SD or <i>n</i> (%)	Range	Median
Sociodemographic factors				
Sample size	172			
Age	172	17.74 \pm 1.32	16–20	18.0
In a relationship	172	38 (22.1)		
High school not completed	170	138 (81.2)		
Hudson Coast	172	93 (54.1)		
Working status	168	70 (41.7)		
Income under \$20k	125	119 (95.2)		
Lifetime pregnancy	161	66 (41.0)		
Pregnant in the last 12 months	161	40 (24.8)		
Pregnant at the time of the survey	160	16 (10.0)		
At least one child given in adoption	169	11 (6.5)		
Psychosocial factors				
Depressive symptoms	165	10.97 \pm 4.79	2–24	10.0
Affection and intimacy, most of the time	168	117 (69.6)		
Positive interactions	168	3.93 \pm 0.86	1–5	4.0
Sociocultural indicators				
Cultural connectedness	172	23.02 \pm 2.99	15–30	23.0
Benefits of childbearing	140	23.21 \pm 4.88	8–32	24.0
Behavioural factors				
Three sexual partners or more	138	22 (15.9)		
No use of condoms at last sexual intercourse	145	66 (45.5)		
Attitudes towards pregnancy				
Ambivalent		69 (43.4)		
Unfavourable		56 (35.2)		
Favourable		26 (16.4)		
Indifferent		8 (5.0)		

Table 2. Comparison of pregnancy likelihood attitudes on sociodemographic, psychosocial, sociocultural, and behavioural factors (n = 159).

	Pregnancy likelihood attitudes, % (n)		P-value
	Low	High	
Sociodemographic factors			
Sample size	35.2 (56)	64.8 (103)	NA
Age	17.68	17.80	0.59
In a relationship	17.9 (10)	25.2 (26)	0.33
High school not completed	85.5 (47)	77.5 (79)	0.16
Hudson Coast	55.4 (31)	41.7 (43)	0.07
Working status	30.9 (17)	48.0 (48)	0.03
Income under 20k	94.7 (36)	94.9 (74)	0.64
Lifetime pregnancy	35.7 (20)	43.7 (45)	0.21
Pregnancy in the last 12 months	26.8 (15)	23.3 (24)	0.38
At least one child given in adoption	36.4 (4)	63.6 (7)	0.58
Psychosocial factors			
Depressive symptoms	10.25	11.41	0.14
Affection and intimacy, most of the time	74.5 (41)	66.0 (68)	0.18
Positive interactions	4.05	3.86	<0.01
Sociocultural factors			
Cultural connectedness	22.54	23.12	0.24
Benefits of childbearing	21.81	23.95	0.01
Sexual behaviour factors			
Three sexual partners or more	12.8 (6)	17.8 (16)	0.31
No use of condoms at last sexual intercourse	49.0 (25)	44.6 (41)	0.37

of the sample were categorised as ambivalent toward pregnancy, 16% as favourable, and 5% as indifferent, and these three attitudes are grouped as they represent the women who are most likely to experience a pregnancy (i.e. HPLA group).

Table 2 presents differences between the low and the high pregnancy likeliness group on sociodemographic, psychosocial, sociocultural, and sexual behaviour factors. Results from chi-square tests and t-tests showed that women in the HPLA group are more likely to work, to report themselves as having less frequent positive interactions with friends and family, and to obtain a higher score on the BOC scale compared to the other group (all p -values < 0.05). Group differences were not observed in any other factors. Table 3 shows the results of block model logistic regressions assessing attitudes related to pregnancy likeliness according to sociocultural, psychosocial, and sociodemographic

factors after controlling for lifetime pregnancy. Perceiving numerous benefits to childbearing and parenthood was associated with HPLA (OR = 1.09, 95% CI = 1.01 – 1.18), while none of the other factors included were significantly related. The model included six variables (lifetime pregnancy, BOC scale, depressive symptoms, positive interactions, working status, and coast of residence) and explained 14% of the variance of the HPLA ($p = 0.04$).

Eight logistic regressions were performed to explore which items of the BOC scale were individually related to attitude-enhancing pregnancy likelihood (Table 4), controlling for lifetime pregnancy. Perceiving that *a baby would make the relationship with the other parent stronger* (OR = 1.65, 95% CI = 1.15 – 2.37) and that *a baby would help to get a house* (OR = 1.45, 95% CI = 1.02 – 2.10) were individually associated with HPLA. Two statements [*A baby makes me feel ... important; like I fit in with others*) also showed high odds ratio, but were not significant.

Table 3. Block model logistic regression analyses of high pregnancy likelihood attitudes (n = 159).

Factors	Model 1
Sociocultural	
Benefits of childbearing	1.10 (1.02–1.20)
Psychosocial	
Depressive symptoms	1.05 (0.97–1.14)
Positive interactions	0.70 (0.45–1.09)
Sociodemographics	
Hudson Coast	0.62 (0.31–1.26)
Working status	1.56 (0.74–3.27)
R^2 (p -value)	0.14 (0.04)

Note: Analysis was adjusted for lifetime pregnancy. Characters in bold indicate significant associations at $p < .05$.

Discussion

This study aimed to advance knowledge of adolescent pregnancy by examining the distribution of attitudes towards pregnancy and by investigating the factors associated with attitudes that are most likely to lead to a pregnancy. Results indicated that a large majority of women showed attitudes that are most likely to lead to pregnancy, especially ambivalence. Among considered factors in multivariate analysis, only perceiving benefits of childbearing was associated with attitude-

Table 4. Associations of individual benefits of childbearing (BOC) item with high pregnancy likelihood attitudes (n = 159).

	High pregnancy likelihood attitudes		
	Odds ratio	95% CI	β (S.E.)
Model 1. Having a baby [gives]/[would give] me someone to love or [means]/[would mean] somebody will love me	1.22	0.85–1.75	0.20 (0.19)
Model 2. Having a baby [makes]/[would make] me feel important	1.36	0.93–1.99	0.31 (0.19)
Model 3. Having a baby [gives]/[would give] me more of a reason to stay away from trouble(excessive parties, drinking, drugs, etc.)	1.06	0.74–1.52	0.06 (0.18)
Model 4. Having a baby [makes]/[would make] my relationship with the other parent stronger	1.65	1.15–2.37	0.50 (0.19)
Model 5. Being a mother [is]/[would] be special; a baby is a blessing	1.08	0.69–1.69	0.08 (0.23)
Model 6. Having a baby [makes]/[would make] me feel like I fit in with other [women]/[men] of my age	1.34	0.95–1.89	0.29 (0.18)
Model 7. Having a baby [helps]/[would help] me get a house	1.45	1.02–2.10	0.37 (0.19)
Model 8. Having a baby [gives]/[would give] me a purpose in life or a role in society	1.04	0.71–1.54	0.04 (0.20)

Note. Characters in bold indicate significant associations at $p < 0.05$.

Note. All models were adjusted for lifetime pregnancy.

enhancing pregnancy likelihood, and among these benefits, perceiving that having a baby would make the relationship with the other parent stronger and that it would help to obtain a house are individually associated with HPLA.

In contrast to Archibald's study [9], qualitative study, which suggested that “the result of carelessness”, or as we refer to as indifference, was one of the common explanation for adolescent pregnancy, indifference was the least frequent attitude in our sample of young Nunavimmiut women. Using a different study design from 9, our results suggest that a great proportion of women position themselves as favourable or unfavourable, or are indecisive towards pregnancy. Thus, they do have feelings and thoughts towards pregnancy and they care about this matter. As reported by Borrero et al. [47], even if they do care, their contraceptive behaviours might not be congruent with their attitude [47,30]. Based on the PBT and the influence of self-efficacy, individuals do not always perceive that they have control over their contraceptive behaviours. Other variables might impact their sense of control [15] – namely, the adolescent's sexual partner, who might have a major influence on deciding about the use of contraceptive when a young woman is ambivalent. In fact, Miller et al. [30] suggest that our understanding of pregnancy likelihood would be improved in considering the partner's attitude.

Results from the first set of analyses also highlighted that ambivalence was the predominant attitude towards pregnancy among Inuit female adolescents. This result is consistent with studies in non-Indigenous populations reporting high rates of ambivalence in

young women [16,18,34]. Having mixed thoughts and feelings is part of a reflexive path to make healthy sexual and reproductive choices. Inuit researcher from Nunavut [48–50], is interested in the impacts of having open conversations about sexuality. Results from her qualitative work illustrate the difficulties parents face teaching and sharing knowledge about sexuality, pregnancy, and family relationships [48]. Participating parents suggested strengthening the relationship between youth and Elders in order to allow Elders to discuss sexual and reproductive health matters through *unikkaaqtigiinniq*, an Inuit concept of storytelling [48,51]. Prioritising *unikkaaqtigiinniq* between Elders and youth might allow a greater and comprehensive thinking concerning sexual and reproductive health along with Inuit traditional values and morals on these matters.

In our study, we also examined factors associated with attitudes that are most likely to lead to a pregnancy – namely, indifference, favourability, and ambivalence. Bivariate results indicated that HPLA group is more likely to work, to report less frequent positive interactions with friends and family, and to show a higher score on the BOC scale compared to the other group. Results from multivariate analysis confirmed that perceiving many benefits of childbearing was related with high pregnancy likelihood attitudes, even after controlling for past pregnancy, which 41% of participating women had experienced. This finding is unexpected since studies in Western and BIPOC populations report that multiparous women tend to perceive fewer benefits related to pregnancy [12,34,52]. Our participants who had a pregnancy may have had a globally

satisfying experience of it, which is translated through the numerous perceived benefits of childbearing. This is a key finding in explaining adolescent pregnancy since our results indicate that the majority of participants believe childbearing offers many benefits, which could also suggest that a majority of female adolescents integrate the traditional positive image of pregnancy and motherhood that is socially transmitted.

Lastly, we have identified which specific benefits of childbearing are associated with HPLA after controlling for past pregnancy. Perceiving that *a baby would make the relationship with the other parent stronger* and that *a baby would help to get a house* were associated with these attitudes. The housing situation in Nunavik might explain why housing access emerged as a unique perceived benefit to childbearing related to HPLA. In 2017, one-third of Nunavimmiut lived in crowded housing [53]. This high rate is explained by housing shortage [54,55] partly because of the young and rapidly growing population, the short construction season, and the high cost of construction [56]. About nine out of ten Nunavimmiut live in social housing [55], which is allocated according to a points system depending on many criteria. Nunavimmiut can be on a waiting list for housing for many years, especially single people [57], since the points system prioritises women with minor children. Among Nunavimmiut, household overcrowding was associated with increased stress, especially among women [58], and poorer mental health among youth aged 15 to 30 years [59]. In a recent study on the effects of moving to a new house, participants reported lower levels of psychological distress and perceived stress after rehousing, which suggests that obtaining a new house improves physical and mental health [60,61]. With this context in mind, our finding may have highlighted that the majority of young women in our sample are aware of the social housing criteria and perceive pregnancy as an advantage regarding housing. This is not to say, however, that women get pregnant only because of the increased potential to access housing. How this advantage is salient and important according to young women remains unexplored.

Our findings should be interpreted in light of potential limitations. First, the fact that the sample number is limited remains an important limitation, and the associated lack of statistical power might explain why there were no behavioural factors associated with the HPLA. Nevertheless, our sample represents 25% of the female population aged 15 to 19 years in 2017, according to the 28. Second, ambivalence towards pregnancy is known as a Western concept. Mixed thoughts and feelings might be experienced differently, and have different impacts, in Inuit contexts, but there is no knowledge of this. Also,

the two questions assessing attitudes towards pregnancy, as well as their definitions, have not been validated with Indigenous populations. Third, findings are not generalisable to the rest of the population in Nunavik since our sample is not representative. On the other hand, one of the main strengths of this study is its consideration of sociocultural factors such as connectedness to Inuit and non-Inuit, although this connectedness was not associated with the outcome. The low Cronbach's alpha of the scale might explain the absence of association, and further studies with a validated measure would help assess this association. Another strength is the cultural adaptation of the BOC scale in adding three items provided by Inuit partners during consultations. This strategy underlines the value of collaborative research in considering Inuit perspectives and exchanging knowledge. Next, analyses were adjusted to take into account lifetime pregnancy since it could influence one's attitude towards pregnancy. Finally, the involvement of Inuit community members in *Qanuilirpitaa?* 2017 and in this current study contributed to enhancing cultural validity.

Depicting the distribution of attitudes towards pregnancy and exploring associated factors, such as the benefits of childbearing, contributed to a more integrated understanding of the influences surrounding adolescent pregnancy and the contexts in which young Nunavummiut make reproductive choices. This study adds to the relatively limited body of knowledge on sexual and reproductive health among Inuit [62–66,] and provides additional information to consider in future research on adolescent pregnancy. From a public health perspective, interventions would benefit at aiming to reduce adverse consequences of pregnancy and improve support to pregnant adolescents and young mothers. Also, empowering young women, as well as young men, in providing accessible information about sexual and reproductive health through culturally adapted programs would help increase desired and conscious reproductive choices and sexual behaviours.

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