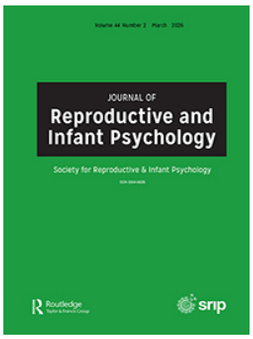

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French version of the well-being in pregnancy (WIP) scale: translation and psychometric validation

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ABSTRACT

Background: This study aimed to validate the French version of the Well-being in Pregnancy (WiP) scale, a 12-item instrument assessing three dimensions of well-being during pregnancy: positive pregnancy, concerns over support after birth, and confidence in motherhood.

Method: A sample of 299 pregnant women (second and third trimesters) in the French-speaking part of Switzerland completed an online survey.

Results: Confirmatory factor analysis supported the original three-factor structure of the WiP and showed good internal consistency. Differences in the WiP scores were found according to women's employment status, financial resources, pregnancy trimester, pregnancy complications, parity, and previous childbirth complications. However, given the nature of the data, measurement invariance could not be examined and group comparisons should be interpreted with caution. The WiP scores were positively correlated with life satisfaction, positive affect, and negatively correlated with negative affect, anxiety and depression symptoms.

Conclusion: The French WiP is a valid tool for assessing well-being during pregnancy and represents a valuable resource for both research and antenatal care.

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Well-being; pregnancy; women; validation; assessment

Introduction

Pregnancy and the transition to parenthood are widely recognised as major life events for women, often constituting a period of heightened vulnerability to stress (Ibrahim & Lobel, 2020) and for the development of mental health disorders (Anggraini et al., 2022; Cantwell, 2021). To mitigate these risks, it is recommended that healthcare providers

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pay particular attention to monitoring women's well-being during antenatal care (National Institute for Health and Care Excellence [NICE], National Institute for Health and Care Excellence [NICE], 2016) to provide them with the individualised care they need. Achieving this goal requires the development of specific instruments to study and assess well-being during pregnancy.

Subjective well-being is a multidimensional concept encompassing emotional and cognitive components (Alderdice et al., 2017; Diener, 1984). The emotional component includes positive and negative affects individuals can experience, and the balance between these emotions, whereas the cognitive component relates to the individual's evaluation of their quality of life (Diener et al., 1999). Pregnancy and motherhood have a profound impact on women's physical functioning (Haas et al., 2005; Othman, 2024), psychological adjustment (Bjelica et al., 2018), and social relationships (Wrzus et al., 2013), all of which are key dimensions of well-being according to the World Health Organization (WHO). Most of the current understanding of women's psychological functioning during pregnancy derives from research on negative outcomes, particularly stress, anxiety, and depression, while studies focusing on well-being remain limited. Moreover, the few studies that have examined women's well-being during pregnancy have typically relied on generic measures of well-being (Bassi et al., 2017; Morrell et al., 2013; Mortazavi et al., 2021), although some evidence suggests that pregnancy-specific measures offer added value in capturing women's experiences (Alderdice et al., 2012; Blackmore et al., 2016). The Well-being in Pregnancy (WiP) scale was developed to assess well-being in the specific context of pregnancy (Alderdice et al., 2017; Kelly et al., 2022). This instrument is composed of 12 items assessing three domains: *Positive pregnancy* (i.e. positive feelings regarding the pregnancy), *Concerns over support after birth* (i.e. concerns women have regarding the support they will receive after the birth and the social contacts they will have), and *Confidence about motherhood* (i.e. the way women feel about motherhood and their ability to care for the baby). To date, the WiP is the only pregnancy-specific instrument assessing well-being.

The aim of this study was to validate the French version of the WiP. First, we examined the original factorial structure of the scale in a French-speaking sample of women in the second and third trimester of pregnancy. Second, we tested the construct validity of the scale with a generic measure of well-being, and with variables that are related to well-being, including satisfaction with life, positive and negative affect (Busseri, 2018).

Method

Population

A total of 299 pregnant women were recruited for this study. Inclusion criteria were: being 18 years of age or older, being in the second or third trimester of pregnancy, and having sufficient proficiency in French to complete questionnaires. Women in their first trimester of pregnancy were excluded due to the uncertainty of early pregnancy (i.e. high risk of miscarriage) and the subtlety of physical and emotional changes at that stage (e.g. perception of baby's movement), which may have limited their ability to respond accurately to certain items of the scale (e.g. *I feel I connected to my baby*, *I am happy with how I look in pregnancy*). Screening questions regarding women's age and trimester of pregnancy were

asked at the beginning of the questionnaire and women who did not fulfill the inclusion criteria were thanked for their interest and could not go further in the questionnaire.

Procedure

The original scale was translated into French using the forward-backward translation methodology (Wild et al., 2005). First, two French-speaking people independently translated the items into French. Second, a reconciliation phase was conducted involving a third French-speaking person. Third, the translated items were back-translated into English by two English-speaking people. Fourth, a second reconciliation was performed with a third English-speaking person. Once the final translation was validated, a linguist reviewed the French version to ensure grammatical accuracy. Finally, cognitive interviews were conducted with five pregnant women to ensure item comprehension and to validate the final translations. A sample copy of the final translation can be found in Supplementary material 1. Permission to use and reproduce the WiP are granted by Oxford University Innovation's Clinical Outcomes team (https://innovation.ox.ac.uk/clinical-outcomes).

Participants were recruited through flyers distributed in relevant locations (e.g. hospitals, gynaecologists' offices) and through advertisements on social media. Data were collected anonymously using Qualtrics. Participants were informed about the purpose of the study and provided their informed consent before accessing the questionnaires. Participation was voluntary, and respondents could withdraw at any time; incomplete responses were considered as a withdrawal of their consent and were therefore not recorded. Answers to all the items were mandatory (i.e. the participant could not move on to the next part of the questionnaire without answering all questions) in order to avoid missing data. The questionnaires took approximately 10–15 minutes to complete. The study received ethical approval from the ethics committee of the University of Geneva (CUREG-2024–12-161).

Measures

Sociodemographic and pregnancy information

Sociodemographic (e.g. age, parity, education, employment) and pregnancy (e.g. weeks of pregnancy, complications, previous pregnancy complication) information was collected.

Well-being in pregnancy

Well-being during pregnancy was assessed using the Well-being in Pregnancy (WiP) scale (Kelly et al., 2022). This 12-item instrument comprises three subscales, each assessing a distinct dimension: *positive pregnancy* (5 items), *concerns over support after birth* (4 items), and *confidence about motherhood* (3 items). Items are rated on a 4-point Likert scale ranging from 0 (*at no time*) to 3 (*all of the time*). Three items are reverse scored. Subscale scores are calculated by summing the item scores and dividing the total by the maximum possible score of each subscale. The raw scores are then converted to a 0–100 scale by multiplying by 100. Higher scores indicate greater positive experiences of

pregnancy, fewer concerns about support after birth, and greater confidence about motherhood.

Satisfaction with life

Satisfaction with life was assessed with the French version of the Satisfaction with Life Scale (SWLS) (Blais et al., 1989). This five-item instrument assesses global satisfaction with life on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The total score is calculated by summing all the items and ranges from 5 to 35, with a higher score indicating greater satisfaction. The scale showed good internal consistency (Cronbach's $\alpha = 0.847$).

Well-being

Well-being was assessed using the WHO-Five Well Being Index (WHO-5), developed by the World Health Organization (WHO) and widely used internationally (Topp et al., 2015). The scale consists of five items rated on a 6-point Likert scale ranging from 0 (*never*) to 5 (*all the time*). The total raw score is converted to a standardised score ranging from 0 to 100, with higher scores indicating greater well-being. The scale showed good internal consistency (Cronbach's $\alpha = 0.829$).

Positive and negative affect

Positive and negative affect were assessed using the Brief Positive and Negative Affect Schedule (B-PANAS) (Boiroux, 2024). The instrument consists of 10 adjectives (5 positive and 5 negative) rated on a 5-point Likert scale according to how the respondent generally feels, ranging from 1 (*very few or not at all*) to 5 (*enormously*). Separate scores for positive and negative affect are obtained by summing the corresponding items, resulting in scores ranging from 5 to 25. Higher scores indicate higher levels of positive or negative affect. The scale showed good internal consistency for the positive (Cronbach's $\alpha = 0.799$) and negative (Cronbach's $\alpha = 0.780$) dimensions.

Anxiety and depression

Anxiety and depression symptoms were assessed with the Hospital Anxiety and Depression Scale (HADS) (Bocéréan & Dupret, 2014). The instrument consists of 14 items, with 7 items assessing anxiety and 7 items assessing depression symptoms, rated on a 4-point Likert scale ranging from 0 to 3. Scores for anxiety and depression are calculated by summing the corresponding items, resulting in score ranging from 0 to 21 for each subscale. Higher scores indicate higher anxiety or depression symptoms. The scale showed good internal consistency for anxiety (Cronbach's $\alpha = 0.725$) and depression (Cronbach's $\alpha = 0.732$).

Statistical analyses

We tested the factorial structure of the original scale using Confirmatory Factor Analysis (CFA). The sample size ($N = 299$) was adequate for conducting a CFA on a three-factor model with 12 items (Kline, 2016). Given the ordinal nature of the data, we used the Weighted Least Squares Mean and Variance adjusted (WLSMV) estimator with delta parameterisation. The factors were modelled as oblique. Model fit was evaluated using

the following adjustment criteria (Hu & Bentler, 1999): a non-significant χ^2 value indicates good model fit; the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) with values above 0.90 considered acceptable and above 0.95 considered excellent; the Standardized Root Mean Square Residual (SRMR), with values below 0.08 considered acceptable and below 0.05 considered optimal; and the Root Mean Square Error of Approximation (RMSEA), with values below 0.08 considered acceptable and below 0.05 optimal. Of note, although a non-significant χ^2 statistic can indicate a good fit, the χ^2 is highly sensitive to sample size and almost always significant in samples larger than 200 participants (Kline, 2016) Therefore, the model fit evaluation will mainly rely on incremental (CFI, TLI) and residual (SRMR, RMSEA) indices.

Internal consistency of the subscales was assessed with McDonalds' Omega, and values above 0.7 were considered acceptable. Associations with other study variables (satisfaction with life, well-being, positive and negative affect, anxiety and depression symptoms) were examined using Spearman correlations. Differences on the WiP scores across groups (trimester of pregnancy, pregnancy complications, parity, previous pregnancy/childbirth complications, health status, education, employment, financial situation) were examined using non-parametric tests (Mann–Whitney U, Kruskal-Wallis). To account for multiple testing, *p*-values were corrected using the Benjamini – Hochberg false discovery rate (FDR) procedure (Benjamini & Hochberg, 1995).

Descriptive and correlational analyses were performed using IBM SPSS 29.01, and CFA was performed using Mplus 8.3 (Muthén & Muthén, 2017).

Results

Descriptive statistics

Women ranged in age from 23 to 45 years ($M = 33.19$, $SD = 3.97$). Most women were engaged in a couple relationship (97.7%) and 92% of the participants were employed. Among them, 43.3% were working at their usual rate, 21.8% had reduced their working time, and 34.9% had stopped working because of pregnancy-related leave. Regarding their financial situation, 25.8% reported having more money than necessary, 68.2% reported having enough money to live on, and 18% reported not having enough money.

Women were in either the second (40.1%) or third trimester of pregnancy (59.1%), ranging from the 14th and the 42nd week of pregnancy ($M = 28.28$, $SD = 7.36$). Most pregnancies were without complications (86%), and most women reported no chronic health conditions (82.3%). Among the multiparous women (40.5%), 25.6% reported complications in a previous pregnancy, and 36.4% reported complications during childbirth.

Descriptive statistics for the study variables can be found in Table 1. Of note, 67% of participants reported normal to high well-being (WHO-5 score > 50), while 18.7% and 6.4% of participants reached clinical thresholds for anxiety (HADS anxiety subscale score ≥ 11) and depression (HADS depression subscale score ≥ 11), respectively.

Confirmatory factor analysis

We tested the three-factor structure of the original scale. The model fit showed a fair adjustment of the model ($\chi^2 = 160.461$, $df = 51$, $p = .000$, CFI = .947, TLI = .932, SRMR

Table 1. Descriptive statistics for study variables.

	Min	Max	Mean	SD
WiP – Positive pregnancy	6.67	100.00	60.37	19.15
WiP – Concerns over support after birth	8.33	100.00	70.68	19.58
WiP – Confidence about motherhood	0.00	100.00	67.11	19.06
Satisfaction with life	12.00	35.00	28.27	4.58
Well-being	4.00	100.00	56.25	17.17
Positive affect	5.00	25.00	17.18	3.29
Negative affect	5.00	22.00	11.25	3.58
Anxiety symptoms	0.00	17.00	7.21	3.46
Depression symptoms	0.00	18.00	5.11	3.12

Note. WiP = Well-being in Pregnancy. Scores for Positive pregnancy range from 0 to 100, with a higher score indicating greater positive feelings. Scores for Concerns over support after birth range from 0 to 100, with a higher score indicating fewer concerns. Scores for Confidence about motherhood range from 0 to 100, with a higher score indicating greater confidence. Scores for Satisfaction with life range from 5 to 35, with a higher score indicating greater satisfaction. Scores for Well-being range from 0 to 100, with a higher score indicating greater well-being. Scores for Positive affect range from 5 to 25, with higher scores indicating higher positive affect. Scores for Negative affect range from 5 to 25, with a higher score indicating higher negative affect. Scores for Anxiety symptoms range from 0 to 21, with a higher score indicating higher anxiety symptoms. Scores for Depression symptoms range from 0 to 21, with a higher score indicating higher depression symptoms.

= .060, RMSEA = .085 90% CI [.070 - .100], *p*(close)=.000). Although the RMSEA was slightly above the commonly recommended cut-off of .08, all other indices suggested an acceptable fit. The RMSEA tends to be inflated in models with a relatively small number of degrees of freedom (Kenny et al., 2015) and has been shown to be less reliable in CFA models with ordinal indicators estimated with categorical estimators (Shi et al., 2020). Given the nature of the present data and model, the model should not be rejected based on the RMSEA only. No modification indices were examined, as the analysis aimed to confirm the existing factor structure and overall model fit was acceptable. Taken together, these results indicate that the model provides a fair representation of the data.

Standardised estimates of the factor loadings can be found in Table 2. All items saturated adequately on their respective factors (from 0.449 to 0.896 for *positive pregnancy*, from 0.531 to 0.855 for *concerns over support after birth*, and from 0.726 to 0.843 for *confidence about motherhood*). Item 2 had the lowest factor loading, which is still considered acceptable (Brown, 2015). Descriptive statistics indicated that all response categories were selected (never = 3.9%, sometimes = 24.4%, most of the time

Table 2. Standardised estimates of the factor loadings of the 12 items of the WiP.

	Positive pregnancy	Concerns over support after birth	Confidence about motherhood
Item 1	0.765		
Item 2	0.449		
Item 3	0.690		
Item 4	0.831		
Item 5	0.896		
Item 6		0.531	
Item 7			0.843
Item 8		0.855	
Item 9			0.771
Item 10			0.726
Item 11		0.731	
Item 12		0.690	

Note. WiP = Well-being in Pregnancy.

= 45.5%, all the time = 23.4%), suggesting no floor or ceiling effects. Thresholds estimates (τ_1 =−1.75, τ_2 = −0.55, τ_3 = 0.70) showed that the item covered a wide and balanced portion of the latent continuum. The corrected item – total correlation (*r* = .35) exceeds the conventional cut-off of .30 (Boateng et al., 2018; Stefana et al., 2024), and the internal consistency of the Positive Pregnancy subscale did not improve substantially when the item was deleted (α = .82 vs. .81). Finally, we also estimated the model again without item 2 but the fit slightly worsened (χ^2 = 145.680, *df* = 41, *p* = .000, CFI = .947, TLI = .929, SRMR = .060, RMSEA = .092), suggesting that the item still contributes to the factorial structure of the scale. According to these aspects, the item 2 was retained for the final version of the scale.

The factors were moderately correlated (*r* ranging from .261 to .373), suggesting that the subscales reflect a common underlying construct while still capturing distinct dimensions of well-being.

Reliability

Reliability, assessed with the McDonald's Omega, was acceptable for *positive pregnancy* (McDonald's ω = 0.811 95% CI [0.779 – 0.850]), *concerns over support after birth* (McDonald's ω = 0.809 95% CI [0.777 – 0.851]), and *confidence about motherhood* (McDonald's ω = 0.836 95% CI [0.804 – 0.882]).

Associations with related variables

Correlations with the study variables can be found in Table 3. *Positive pregnancy* scores were positively correlated with satisfaction with life, general well-being, and positive affect, and negatively correlated with negative affect, anxiety and depression. *Concerns over support after birth* scores were positively correlated with satisfaction with life, general well-being, and positive affect, and negatively correlated with negative affect, anxiety and depression. C*onfidence in motherhood* scores were positively correlated with satisfaction with life, general well-being, and positive affect, and negatively correlated with negative affect and anxiety, but was not associated with depression.

Table 3. Spearman correlations between study variables.

	Satisfaction with life	Well-being	Positive affects	Negative affects	Anxiety	Depression
WiP – Positive pregnancy	.249*	.518*	.508**	−.436**	−.308**	−.497**
WiP – Concerns over support after birth	.475**	.397**	.384**	−.433**	−.349**	−.382**
WiP – Confidence about motherhood	.153**	.197**	.229**	−.308**	−.168**	−.086

Note. *$p < .05$, **$p < .01$.WiP = Well-being in Pregnancy. Higher score for Positive pregnancy indicates greater positive feelings. Higher score for Concerns over support after birth indicates fewer concerns. Higher score for Confidence about motherhood indicates greater confidence. Higher score for Satisfaction with life range indicates greater satisfaction. Higher score for Well-indicates greater well-being. Higher score for Positive affect indicates higher positive affect. Higher score for Negative affect indicates higher negative affect. Higher score for Anxiety symptoms indicates higher anxiety symptoms. Higher score for Depression symptoms indicates higher depression symptoms.

Table 4. *p*-values for group differences on the WiP factors.

	Positive pregnancy		Concerns over support after birth		Confidence about motherhood	
	p values	Effect size [95%CI]	*p* values	Effect size [95%CI]	*p* values	Effect size [95%CI]
Education	.319	$\varepsilon^2 = 0.005$ [0.002 - 0.033]	.841	$\varepsilon^2 = 0$ [0.013 - 0.013]	.579	$\varepsilon^2 = 0.006$ [0.001 - 0.036]
Employment status	.979	$r_{rb} = 0.003$ [−0.110 - 0.214]	.057	$r_{rb} = 0.285$ [0.177 - 0.386]	**.032**	$r_{rb} = 0.277$ [0.169 - 0.379]
Current working status	1	$\varepsilon^2 = 0.001$ [0.008 - 0.022]	.804	$\varepsilon^2 = 0$ [0.014 - 0.014]	.536	$\varepsilon^2 = 0$ [0.014 - 0.014]
Financial situation	.425	$\varepsilon^2 = 0.002$ [0.005 - 0.025]	**.039**	$\varepsilon^2 = 0.022$ [0.001 - 0.066]	.478	$\varepsilon^2 = 0$ [0.013 - 0.013]
Trimester of pregnancy	**.015**	$r_{rb} = 0.191$ [0.079 - 0.298]	.489	$r_{rb} = 0.066$ [−0.048 - 0.178]	.507	$r_{rb} = 0.044$ [−0.070 - 0.157]
Pregnancy complications	**.003**	$r_{rb} = 0.370$ [0.268 - 0.464]	.190	$r_{rb} = 0.145$ [0.032 - 0.254]	.658	$r_{rb} = 0.041$ [−0.073 - 0.154]
Health status	.301	$r_{rb} = 0.111$ [−0.002 - 0.222]	.279	$r_{rb} = 0.145$ [0.032 - 0.254]	.229	$r_{rb} = 0.103$ [−0.011 - 0.214]
Parity	**.013**	$r_{rb} = 0.177$ [0.065 - 0.285]	**.027**	$r_{rb} = 0.149$ [0.036 - 0.258]	**.003**	$r_{rb} = 0.385$ [0.284 - 0.478]
Previous pregnancy complications	.504	$r_{rb} = 0.165$ [−0.014 - 0.334]	.865	$r_{rb} = 0.020$ [−0.159 - 0.198]	.306	$r_{rb} = 0.150$ [−0.029 - 0.320]
Previous childbirth complications	.057	$r_{rb} = 0.225$ [0.048 - 0.338]	.075	$r_{rb} = 0.243$ [0.067 - 0.404]	.179	$r_{rb} = 0.144$ [−0.035 - 0.314]

Note. *p*-values derived from Mann – Whitney U tests or Kruskal – Wallis H tests depending on group structure and were adjusted using Benjamin Hochberg FDR and monotonicity. Effect sizes are calculated as rank-biserial r for Mann – Whitney and ε^2 for Kruskal – Wallis Bold *p*-values indicate significant group differences.

Differences in WiP scores across groups

Group differences can be found in Table 4.

No differences were found according to education, current working status pregnancy (i.e. still working full-time or already on leave/partly on leave), health status (i.e. presence of a chronic health issue), previous pregnancy complications or previous childbirth complications. Regarding *positive pregnancy*, higher scores were found for women in the third trimester of pregnancy, lower scores for women who reported pregnancy complications, and higher scores for primiparous women. Regarding *concerns over support after birth*, lower scores were found for women who reported being in a poor financial situation and higher scores for primiparous women. Finally for *confidence about motherhood*, higher scores were found for unemployed women, and higher scores for multiparous women.

Discussion

This study aimed to validate the French version of the Well-being in Pregnancy (WiP) scale in a French-speaking sample of pregnant women in Switzerland. Confirmatory factor analysis supported the original three-factor structure in the French version, which also showed good reliability. One item —*'I feel I connected to my baby'*— showed a lower loading on its factor (*positive pregnancy*); however, removing it resulted in a slight decrease in the model fit. It was therefore retained in the final version of the scale. The lower factor loading may be explained by the fact that this item is the only one within the *Positive Pregnancy* factor that specifically addresses emotional connection with the baby, whereas the other items focus on emotions related to the pregnancy. Nevertheless, as the item still contributes to the overall factorial structure, this suggests that feeling an emotional bond with the baby is an integral component of the broader construct of positive experiences during pregnancy. Indeed, one of the components of the bond between the mother and the (unborn) infant is the presence of positive maternal affection and feelings (Nakić Radoš et al., 2024), and this bond has been shown to be an important aspect of maternal well-being during pregnancy (Kluny & Dillard, 2022). Overall, results indicate that the WiP is a valid instrument to assess well-being in the specific context of pregnancy, capturing aspects related to the positive feelings towards the pregnancy and the baby (*positive pregnancy*), the social support that mothers expect to receive (*concerns over support after the birth*), and the confidence about the ability to take care of the baby (*confidence about motherhood*).

The construct validity of the scale was supported by its associations with related variables. Higher scores of the WiP dimensions were associated with greater general well-being, indicating good convergent validity. The WiP was also positively associated with satisfaction in life and positive affect, and negatively associated with negative affect – core components of the theoretical model on which the scale was developed (Alderdice et al., 2017; Diener et al., 1999; Kelly et al., 2022). These results further support the validity of the scale. Results also showed associations between the dimensions of the WiP and anxiety and depression symptoms. Positive feelings towards pregnancy was negatively associated with anxiety and depression, which is in line with previous studies showing that depression and anxiety can hinder the positive emotion system (Taylor et al., 2017).

Mothers with higher levels of anxiety or depression symptoms might therefore feel less positively about their pregnancy. Mothers who reported having more concerns about support after birth (i.e. lower scores on the *concerns over support after birth* dimension) were associated with higher anxiety and depression symptoms. This is in line with evidence showing that social support in the perinatal period is associated with a lower risk of anxiety and depression symptoms (Sufredini et al., 2022). Finally, the confidence women had about motherhood was associated with anxiety, but not depression symptoms. Although this result was surprising, a previous study highlighted the complex influences between depression, anxiety and maternal self-confidence, with no effect of depression when anxiety was taken into account (Wernand et al., 2014). A plausible explanation that has been put forward is that depressive symptomatology might be associated with cognitions that are more past-oriented, whereas anxiety might be more future-oriented (Eysenck et al., 2006; Wernand et al., 2014). Lower confidence in their future role as a mother might therefore be more salient for mothers with higher anxiety than depression.

Regarding the association of the WiP with sociodemographic variables, results have also shown that women with lower financial resources had more concerns regarding the support after birth (i.e. lower scores on the *concerns over support after birth* dimension). A financially precarious situation can increase social isolation (Davis et al., 2025; Stewart et al., 2009), and women in this situation might be more isolated and could therefore anticipate a lack of support. Results also showed that unemployed women were more confident about motherhood than employed women. Although previous research showed no evidence for the association between employment status and maternal sense of competence (Fang et al., 2021), it has been mostly studied in mothers during infancy or in early childhood and not during pregnancy. Pregnant women might anticipate the impact of their employment on their ability to take care of their child, although there might be no effective differences after birth.

Women in the third trimester of pregnancy reported more positive feelings towards pregnancy compared to women in the second trimester of pregnancy. This is not in line with previous studies showing that women have the most positive emotions at mid-pregnancy (Takács et al., 2025) and a decrease of life satisfaction (Branecka-Woźniak et al., 2020) and health-related quality of life (Wu et al., 2021) as the pregnancy progresses. However, the results were based on generic emotion and life satisfaction scales and not on pregnancy-specific aspects. The subscale of the WiP focuses on positive emotions towards the actual pregnancy, which could highlight different patterns than generic measurements. The higher positive feelings could be due to the fact that women in the third trimester of pregnancy might be more confident about their baby's health (Westerneng et al., 2019) and therefore more confident regarding the pregnancy outcome. This assumption is reinforced by the result showing pregnancy complications also decrease the positive feelings regarding the pregnancy. This is in line with previous studies, as pregnancy complications are associated with higher anxiety (Abrar et al., 2020; Biaggi et al., 2016) and depressive symptoms (Biaggi et al., 2016; de Moraes et al., 2016), traumatic stress (Oftedal et al., 2022) and lower general well-being (Kara, 2025).

Regarding parity, primiparous women reported higher positive feelings regarding pregnancy and less concerns about the support they will receive after birth (i.e. higher scores on the *concerns over support after birth* dimension). The experience of the

pregnancy might be influenced by the childcare responsibilities that women already have, with an increased mental load that could influence their emotions (Callaghan et al., 2024). Previous studies have shown that multiparous women considered receiving lower support than primiparous (Rodríguez-Muñoz et al., 2024) and that social relationships tend to decrease with the birth of a child (Seymour-Smith et al., 2017). Multiparous women might therefore anticipate lower support after the birth. Multiparous women reported higher confidence regarding motherhood, in line with previous studies (Brunton et al., 2020; Dol et al., 2021).

This study has several research and clinical implications. From a research perspective, it provides a valid tool for assessing French-speaking pregnant women's well-being, contributing to a better understanding of the factors that influence well-being during pregnancy and its association with outcomes such as pregnancy complications, childbirth experience, maternal postpartum mental health, or social functioning. Such insights can inform strategies to enhance professional support for pregnant women and broader professional and community understanding of how well-being can best be supported during pregnancy. From a clinical perspective, the WiP can be used in routine practice to assess women's well-being and guide healthcare professionals in identifying the type of care their patients may require. Although several perinatal mental health screening tools exist to assess, for example, perinatal depression (Cox et al., 1987) or pregnancy-related anxiety (Brunton et al., 2019), traditional symptom-focused questionnaires can sometimes trigger uncomfortable feelings in women (Bayrampour et al., 2017; Kingston et al., 2015). By focusing on positive aspects of well-being, the WiP may facilitate emotional disclosure and serve as a first step in identifying women who could benefit from further depression or anxiety screening. Additionally, responses to specific WiP items may also serve as a basis for discussion, helping clinicians to identify women's concerns or difficulties. By evaluating the three dimensions (*positive pregnancy*, *concerns over support after birth*, and *confidence in motherhood*) clinicians can gain insights into specific domains that may affect women's well-being, such as difficulties in feeling positively about the pregnancy or the bond with the baby, anticipated social support, or perceived maternal competence. This would allow to support women towards an increase of positive emotions and prenatal bonding, the identification of their needs regarding social support and the support available, and towards their perception of their self-efficacy. In both research and clinical settings, a short and easy-to-administer instrument like the WiP can easily be integrated into research and clinical assessment protocols.

Several limitations of the study should be acknowledged. First, measurement invariance analyses regarding the trimester of pregnancy and the parity, to ensure the invariance across groups, could not be conducted in the present sample, due to the ordinal nature of the items and the uneven distribution of responses across groups (i.e. some response categories were not observed in all groups). Collapsing response categories or using an alternate model estimator was avoided, to preserve both the original scaling of the items and their categorical nature. Therefore, comparisons between groups should be interpreted with caution and future studies using the WiP should investigate the invariance of the scale. Second, the sample consisted of women with a high educational and socioeconomic status, both of which tend to influence well-being (Tan et al., 2020; Tay et al., 2018), leading to an underrepresentation of vulnerable individuals. Although the recruitment through clinical settings aimed at targeting a variety of clinical settings (i.e. private gynaecology practices

and university hospital gynaecology department), the recruitment through social media might have induced a bias towards higher education level and socioeconomic status (Benedict et al., 2019; Topolovec-Vranic & Natarajan, 2016; Zimmermann et al., 2022). Indeed, reliance on social media likely favoured participants with greater digital access and literacy (Estacio et al., 2019; Zimmermann et al., 2022). The generalisability to other groups should be verified in future studies, especially as lower socioeconomic status can lead to poorer perinatal mental health (Daalderop et al., 2023; Yang et al., 2022) and health during pregnancy (Girardi et al., 2023; Wang et al., 2020). Third, only women in the second and third trimester of pregnancy were recruited, and results are therefore not generalisable to women in their first trimester. Finally, all measures relied on self-report and were presented in a fixed order, which may have introduced potential order effects. Despite these limitations, this study shows that the WiP is a valid instrument that enhances existing tools for measuring aspects of women's experience specific to pregnancy. Moreover, the results provide some indications on the influences and associations between sociodemographic and mental health variables on pregnancy-specific well-being, paving the way for future studies. The use of the WiP will increase the understanding of the factors influencing well-being, its consequences for women and their children, and ways to enhance well-being.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data supporting the conclusions of this article will be made available by the authors, upon reasonable request.

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