Factors influencing the maternal life balance of Flemish mothers, a cross-sectional study

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Abstract

This cross-sectional study examined the levels of maternal life balance and its influencing factors. The sample was composed of 731 Flemish mothers who self-reported on perceived maternal life balance; maternal-infant bonding; emotional wellbeing and coping responses to motherhood. Sociodemographic details were obtained. Mothers overall perceived life balance. Multiple linear regression analysis revealed a model with predictors of perceived maternal life balance: Sense of coherence (*B*.157; *p*.000), level of education (*B*.035; *p*.000), seeking social support (*B*.064; *p*.008) and shared parenting (*B*.080; *p*.030) had a significant positive relationship with maternal life balance. Low emotional wellbeing (*B*-.273; *p*.000), income level (*B*-.144; *p*<.000), maternal age (*B*-.009; *p*.011) had a significant negative relationship with maternal life balance. To establish and maintain maternal life balance, Flemish mothers, mothers ≥31 years of age in particular, would benefit from support during their children's pre-primary school age-period, irrespective of maternal socio-economic characteristics. Professional and peer support should include the dialogue about transition to motherhood, adaptation of the maternal identity and maternal role attainment. The woman's emotional wellbeing, her concerns about motherhood, her coping resources and what motherhood means to the individual woman should be considered. Education of professionals and future research, with specific attention to co-parents, older mothers and mothers with a non-Flemish background, are recommended.

Key words: Motherhood; maternal; life balance; bonding; emotional wellbeing; adaptation

Introduction

Becoming and being a mother is one of the most life-changing events and life-stages, recognised for its profound impact on the woman's life balance (Nelson, 2003; Mercer, 2004; Emmanuel *et al*., 2011; Rousseau, *et al*., 2011). Life balance is defined as a pattern of daily activities experienced as healthy, agreeable, meaningful and coherent within an individual's life (Matuska & Christiansen, 2008). Establishing and maintaining a satisfactory life balance is associated with individually perceived quality of life, social development, healthy functioning and pursuing goals and values (Eriksson & Lindström, 2005; Hayes *et al*., 2006; Higginson *et al.*, 2011; Chen *et al*., 2015). Maternal life balance (i.e. life balance during motherhood) is regarded as perceiving an equilibrium or a balancing act after having a baby, raising and caring for one or more children; on an individual intrapersonal level, in family and social structures and in western society (Emmanuel *et al*., 2011; Eli *et al*., 2016). This can be a challenge, in particular for mothers with children in the (pre)primary school age, because these mothers are recognised to be most involved in their caring role combined with (professional) activities and responsibilities (Craig & Sawrikar, 2009). Maternal life balance is a dynamic multi-dimensional process (Prinds, 2014) and is influenced by a woman's personal circumstances, the number of children, age of her child(ren), her personality traits, sense of wellbeing, maternal perceived bonding and interaction with her child(ren), values of motherhood and her adaptation and coping abilities (Moore & Brooks-Gunn, 2002; Mercer, 2004; Hayes *et al*., 2006; Mercer, 2006; Kaitz, 2007; Craig & Sawrikar, 2009; Emmanuel *et al*., 2011; Rousseau, *et al*., 2011; Mendes, 2013; Eli *et al*., 2016; Staneva *et al*., 2016). Maternal life imbalance contributes to reduced physical and emotional wellbeing, impaired mothering and personal relationships. Additionally, imbalance affects the professional and social role of the woman and reduces her involvement in daily and social activities (Eriksson & Lindström, 2005; Emmanuel *et al*., 2011; Matuska *et al*., 2013; Eli *et al*., 2016; Lindström *et al*., 2017).

Little is known yet about factors influencing maternal life balance after childbirth (Lindström *et al*., 2017). We are therefore interested in how Flemish women respond to, and interact with motherhood. Healthcare professionals such as midwives and community nurses have an important role in health counselling parents and need to prepare and support (future) mothers and families for the challenges they will face in finding and sustaining a satisfactory maternal life balance. In order to understand the influencing factors on how mothers find and maintain life balance, we need to gain knowledge about maternal life balance and the influencing factors to adequately support mothers, to prevent or improve an impaired life balance and/ or to maintain a healthy life balance among mothers. For the purpose of this study, we wanted to examine mothers' perceived levels of life balance and to identify the explicit factors that might serve a proxy for healthcare professionals to recognise mothers that (are more likely to) experience impaired life balance. To fulfil this purpose, answers were sought to the following questions:

- What are the levels of life balance reported by mothers in Flanders?
- What are the determinants, influencing maternal life balance of mothers in Flanders?

Method

Design and sample procedure

A cross-sectional study was performed using a battery of questions in an online survey. We included Dutch-speaking women, 18 years of age or older who had at least one biological child <12 years of age, i.e. in the (pre)primary school age time period (Craig & Sawrikar, 2009). We excluded women who had given birth

<6 weeks ago. Women with at least one adopted child or a child with illnesses or life-threatening conditions requiring intensive medicalised support were excluded, because maternal transition processes of these mothers involve unique emotions and concerns (Fontenot, 2007; Olsson, Larsman & Hwang, 2008). In case of multiparity, we referred to the maternal experiences related to the youngest child. We used purposive random sampling, aiming varying strategies. We approached organisations such as nursery/ pre/ primary schools, day care/ after-school care facilities, indoor-playgrounds, family friendly restaurants, breastfeeding café's and community healthcare centres, either by email or phone to inform them about the study. We provided these organisations with posters and flyers that included information about the study and the link and Quick Response (QR)-code to the questionnaire, to be distributed among the target group. We approached women at indoor-playgrounds and handed out tablets to complete the survey. We announced the study in a publicly made available message on Facebook, asking Facebook members to share the message, allowing snowballing. Sample size calculation with p .05 (CI 95%) showed that we needed a sample of a minimum of 384 participants to be representative of the target population, allowing meaningful statistical interferences. With an expected response rate of 40%, we had to approach a minimum of 960 Flemish mothers. Data collection occurred between 22 December 2017 to 3 December 2018. We used the Limesurvey software to collect the data. The Ethics Committee Social and Human Sciences Antwerp, reviewed and approved the study protocol (EA SHW_17_40_03). All participants gave informed consent for the research and their anonymity was preserved. The writing of this paper was guided by the consolidated criteria for reporting observational studies.

Measures

We collected socio-demographic details and measured four different categories, using various self-reported questionnaires available in the Dutch language: (1) Maternal life balance; (2) Maternal affection, measured by maternal-infant bonding because this regarded as a maternal-driven affective state of the mother (Bicking Kinsey & Hupcey, 2013); (3) Emotional wellbeing and; (4) Adaptation (Table 1). To ensure validity, the complete questionnaire was pre-tested by a random sample of eligible mothers, not participating in the study (n=10). They considered the following criteria: (i) the focus and logic of the items, (ii) comprehensibility, (iii) time to complete. Pre-testing resulted in the rephrasing of inapt worded questions. The questionnaire took on average 15 minutes to complete.

Table 1. Maternal life balance measures

CATEGORIES	QUESTIONNAIRES
1. Maternal Life balance	a. Life Balance Inventory (LBI) b. Personal Wellbeing Index Adult version (PWI-A) c. Basic Psychological Needs Scale (BPNS)
2. Maternal affection	d. Postpartum Bonding Questionnaire (PBQ)
3. Maternal emotional wellbeing	e. General Health Questionnaire (GHQ-12)
4. Maternal adaptation	f. Sense of Coherence (SOC-13) g. Coping Operations Preference Enquiry-Easy (COPE-Easy) h. Acceptance and Action Questionnaire (AAQ-II)

Life Balance Inventory (LBI). The 53-item LBI questionnaire measures how individuals meet their needs through daily activity configurations. The 53 items represent four common categories (i.e. subscales) of activity that people in western cultures engage in: health, relationship, identity and challenge. On a dichotomous scale of yes/no, respondents record whether they do each activity or want to do the activity. For each of the items that they (want to) do, they rate their perceived satisfaction with the amount of time

they spent doing that activity compared to the amount of time they would want to spend on a 5-item polar-opposite scale (3-2-1-2-3) ("*Always less than I want"* to "*Always more than I want"*). The extreme scores represent imbalance. The LBI has demonstrated acceptable content validity (RMSEA .08; CFI .70) and very good internal consistency (α.97) (Matuska, 2012).

The Personal Well-Being Index-Adult (PWI-A). The 9-item PWI-A measures the level of satisfaction with several items in life on 11-point rating scale ("*No satisfaction at all"* to "*Completely satisfied"*). Individuals have to indicate how satisfied they feel with several items (e.g. relationships, health, standard of living). A higher score indicates higher levels of satisfaction (International Wellbeing Group, 2013). The Dutch PWI-A has shown good internal consistency (α.86) (van Beuningen & de Jonge, 2011).

The Basic Psychological Needs Scale (BPNS). The 24-item BNPS measures the extent to which individuals are satisfied with their level of autonomy, competence and relatedness, using a 5-point Likert scale. A higher score indicates increased levels of satisfaction (Deci and Ryan, 2000). The BPNS has shown satisfactory internal consistency for the subscales: autonomy, relatedness and competence (α.69, α.077, α.81) for use in a Flemish population (Chen *et al*., 2015).

Postpartum Bonding Questionnaire (PBQ). The 25-item PBQ measures how a mother experiences the bond with her child on a 6-point Likert scale. A higher score indicates a negative relationship with the infant or child (Brockington *et al*., 2001). The Dutch PBQ has shown good internal consistency on two occasions (α.87, α.78) (Van Bussel Spitz & Demyttenaere, 2010).

General Health Questionnaire (GHQ-12). The 12-item GHQ measures emotional wellbeing in the general population, using a 4-item rating scale ("*Not at all*" to "*Much more than usual"*). A score >12/36 indicates reduced emotional wellbeing (Goldberg & Williams, 1998). The GHQ-12 has been validated in a postpartum population and non-pregnant women, showing high internal consistency at 6 weeks and 3 months postpartum (α.92, α.95) (Spiteri, Jomeen & Martin, 2013).

Sense of Coherence (SOC 13). The 13-item SOC assesses a person's view of life measured with the components: comprehensibility, meaningfulness and manageability, using a 7-item rating scale ("*Never"* to "*Very often"*). A higher score indicates a stronger sense of coherence (Antonovsky, 1993; Eriksson & Lindström, 2005). The Dutch SOC-13-version was validated in a Flemish population and the three components showed an adequate model-fit (RMSEA .06; CIF .93) (Luyckx *et al*., 2012). The SOC sub scales comprehensibility, meaningfulness and manageability have shown internal consistency in a population of working mothers (α.82, α.78, α.77) (Herbst *et al*., 2007).

Coping Operations Preference Enquiry (Brief-COPE). The 21-item Brief COPE measures how individuals cope with (life/adverse) events/stressors, grouped into four main coping styles: problem solving, avoidant coping, positive thinking and seeking social support (Carver, 1979). The Brief-COPE uses a 4-point rating scale ("*Not at all"* to "*Very"*). Higher scores indicate the use of the respective coping strategy. The Dutch Brief COPE has shown fair to good internal consistency in a pregnant population (subscales ranging between α.66 to .85) (Fontein-Kuipers *et al*., 2015) and among working mothers (subscales ranging between α.83 to .93) (Herbst *et al*., 2007).

Acceptance and Action Questionnaire (AAQ-II). The 7-item AAQ-II measures psychological (in)flexibility focusing on the behavioural adjustment strategies: acceptance and avoidance, using a 7-point rating scale (*Never* to *Always*). A higher score demonstrates flexibility and acceptance (Hayes *et al*., 2004). The AAQ-II has been validated among a Flemish population and has demonstrated good internal consistency (α.89) (Jacobs *et al*., 2008).

Analysis

We reversed the scores of the negative formulated items. We recoded the LBI-polar opposite scoring method into a unipolar rank order. For all the (sub)scales we calculated a mean total score. We calculated descriptive statistics for the socio-demographic details. Crude data were used for descriptive analysis. To handle the at random missing values in the response process of our study, we imputed missing values using maximum likelihood methods (expectation maximization) (Field, 2013). We used the baseline characteristics for comparison of responders and non-responders. We regarded women who had only provided socio-demographic details and/or those with missing or incomplete (>10% missing values) LBI, PWA-I and BPNS values as non-responders. Normality of distribution was confirmed using visual interpretation of histograms and Q-Q plots. We used Chi-square tests and analysis of variance (ANOVA) to compare the responding and non-responding participants. We calculated Cronbach's alpha (α) to measure the interrelatedness of the respective (sub)scales' items, accepting .70 for group-level interpretation (Skorupski & Carvajal, 2010). Maternal life balance was the summed score of the total of the overall LBI, PWI-A and BPNS mean scores. To examine the proportion of total test variation explained by the summed score, we calculated the summability of this category using online software (https://goeman.shinyapps.io/summability/). A summability of 1 indicated perfectly correlated items and summability around zero indicated inadequate item-correlation (Goeman & de Jong, 2018). Kruskal-Wallis tests was used to examine the differences in mean life balance ranks of mothers from various age groups and of mothers with children in different age groups. The Mann-Whitney U test compared the differences in mean life balance ranks of mothers with one child or ≥2 children. *Post-hoc* Bonferroni was utilised in case of significant non-parametric rank differences. Multiple linear regression analysis was performed to examine the relationship between the dependent variable (maternal life balance) and the multiple independent variables. Data entry and analysis were performed using the Statistical Package for the Social Sciences (SPSS) version 25.0.

Results

A total of 1579 women responded, including 897 eligible women. The 682 non-eligible participants who did not meet the including criteria included 370 women with children either younger than 6 weeks old or older than 12 years; 78 women who had children with illnesses or life-threatening conditions and; 14 women with adopted children. A number of 220 women could not be included because of incomplete information about socio-demographic details (see Figure 1).

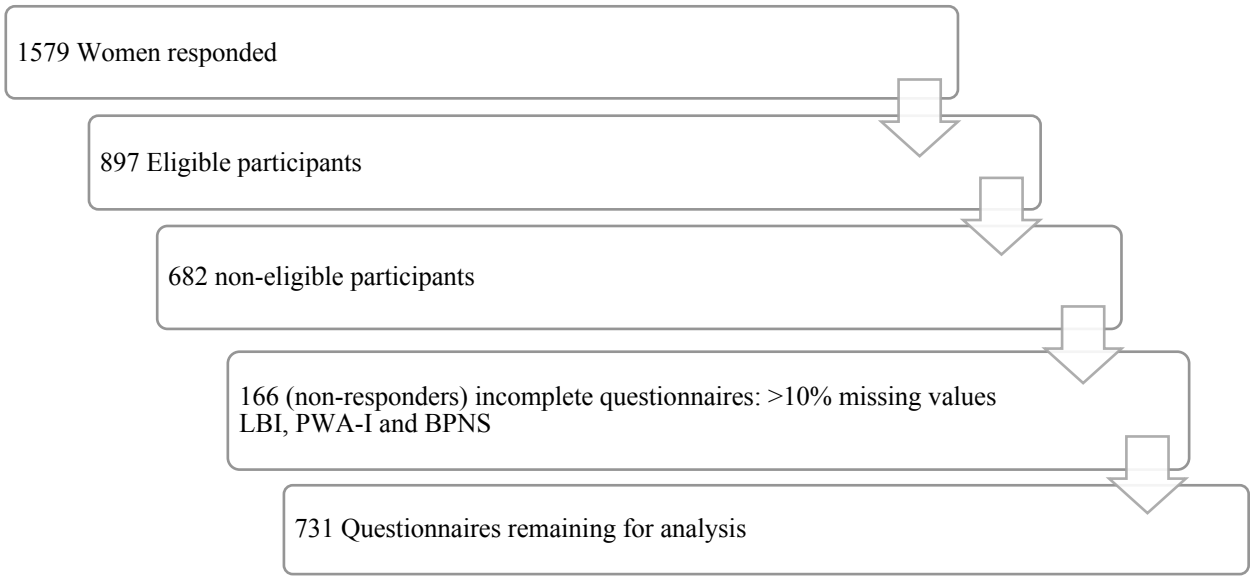

Figure 1. Flowchart study population

Participants

To compare the responding and non-responding participants we entered the characteristics of 897 participants: level of urbanisation, ethnic background, religion, relationship, family setting, working status, level of income, level of education, maternal age, number of children, age of child(ren), presence of physical problems/ inabilities, history of psychological problems, smoking and drinking. Responders (n=731) had significantly more often paid jobs (X^2 4.96; p .03) and a higher level of income (X^2 10.9; p .01) compared to non-responders (n=166). No other significant differences were observed. Participants lived in Flanders with a strong representation of the Antwerp area. Nearly 70% of the sample was between 26 and 35 years of age and 56% of the participants had more than 1 child. The details of the responders are presented in Table 2. Kruskal-Wallis showed no significant maternal life balance rank differences in mothers with children in different age groups: up to 1-year, pre-primary school children (2 to 5 years of age) and primary-school children (6 to 12 years of age) and (p .11). Man-Whitney U showed no significant maternal life balance differences between mothers with one child compared to mothers with ≥2 children (p .44). Kruskal-Wallis showed significant differences in maternal life balance in mothers from the different age groups: 21 to 25, 26 to 30, 31 to 35, 35 to 40 and ≥41 years (p .004). The Bonferroni *post hoc* test showed significant differences in maternal life balance between the maternal age groups ≥41 years and 21 to 30 (p .005).

Table 2. Socio-demographic details participants (N = 731)

	Mean ± (range)	**N/%**
Maternal age in years	32.2 ± 4.95 (21-49)	
21-45 years of age		50/6.8
26-30 years of age		238/32.6
31-35 years of age		267/36.5
36-40 years of age		133/18.2
≥41 years of age (21-49)		43/5.9
Number of biological children	1.7 ± 0.8 (1-7)	

1 child		321/43.9
2 children		300/41
3 children		90/12.3
≥ 3 children		20/2.8
Age youngest child in years	2.2 ± 2.68 (0-8)	
Age oldest child in years	4.2 ± 3.76 (0-20)*	
Level of urbanisation		
Rural to sub-urban		390/53.4
Urban		341/46.6
Ethnic background (participant and parent(s) born)		
Flemish		688/94.1
Other western[1]		31/4.2
Non-western[2]		12/1.7
Religion		
Religious[3]		439/60
Not religious		292/40
Relationship		
Single		81/11.1
In relationship		650/88.9
Family setting		
Living with father of child(ren)		620/84.8
Blended family		45/6.1
Living with a woman/co-mother		10/1.4
Separated with joint custody and co-parenting		21/2.9
Separated with financial support of other parent without co-parenting		17/2.3
Single mother (by choice)		18/2.5
Main daily activity		
Paid job		660/90.3
Work percentage (FTE%)	77.1 ± 26.22 (0-150%)	
Unpaid activity[4]		71/9.7
Family income		
Above average (> € 33,700/ annum)		571/78.1
Below average (< € 33,700/ annum)		160/21.9
Level of education		
Elementary, pre-vocational secondary education		31/4.2
Secondary education preparing for higher education		184/25.2
Bachelor equivalent		347/47.5
Master and University level		169/23.1
Smoking (cigarettes per day)	9.2 ± 8.17 (1-30)	81/11
Drinking (units per week)	2 ± 2.41 (0.5-17)	413/56.5
Physical problems/inability		142/19.4
History of psychological problems		67/9.2
Use of psychopharmaceutic drugs		28/3.8

[1]Other western: European countries (but not Turkey), North America, Oceanian countries, Indonesia and Japan
[2]Non-western: Africa, Latin-America, Asia (but not Indonesia and Japan) and Turkey
[3]Religious: Christian/Islam/Hinduism/Buddhism/Jewish/ Jehovah/Other
[4]Unpaid activity: Fulltime mother, student, job seeking, unpaid domestic work
*26 children were ≥12 years of age

Reports of maternal life balance and the influencing factors

We included a total of 731 completed questionnaires for analysis. Cronbach's alpha showed overall an acceptable internal relatedness of the (sub)scales' items (Table 3). The maternal life balance category showed an acceptable summability of .72 (Goeman & de Jong, 2018). The BNPS, SOC-13 and COPE-Easy

showed test score variances as the BPNS *competence* subscale, the SOC-13 *manageability* and *meaning* subscales and the COPE-Easy *avoidance* and *positive thinking* subscales showed α <.70 (Skorupski & Carvajal, 2010). This was however to be expected as the subscales contained eight items or less (Field, 2013). In order to decide to keep or remove the subscales we calculated Guttman's Lamda-2 (λ) to derive the estimates of the reliability of the unidimensionality of the BNPS, SOC-13 and COPE-Easy scales. Granting our large sample, we regarded λ <.60 as a cut-off for deleting the subscales (Callender, 1979). BPNS λ .87 and SOC λ .86 showed to be equal to the scales' α and COPE-Easy λ .81 showed to be greater than the scales' α, indicating true reliability of the scales as a whole. All subscales were kept for further analysis, accepting the low Cronbach's α of the five subscales.

Visual interpretation of histograms and Q-Q plots of the variables showed normal distributions. Women's perceived satisfaction with the amount of time they spent doing the daily activities compared to the amount of time they would want to spend. Although the ranges showed that women overall tend to spend less time on activities than they want rather than more time, the scores indicated perceived life balance. Women's levels of satisfaction with one's quality of life, autonomy, competence and relationships were on average above the neutral scores, quality of life and competence showing the highest scores. Women's bonding scores were on average near the minimum score, indicating a very positive relationship with the infant or child. Maternal emotional wellbeing was on average just below the neutral score. One in 4/5 women showed reduced emotional wellbeing. Women's sense of coherence was on average above the neutral score. This applied to the overall score as well as to the subscale scores. Women coped on average by utilising coping strategies such as problem solving, positive thinking and by seeking support but on average they did not utilise avoidant coping. Women's psychological flexibility and acceptance was on average above the neutral score (Table 3).

Table 3. Scores (sub)scales life balance, motherhood, emotional wellbeing and coping

Measures	**Mean ±SD (range)**	**Cronbach's α**
Maternal Life Balance		
Life Balance Inventory (overall) (scores 1-3) *	2.18 ± .26 (1.2-3)	α .80
Health subscale	2.02 ± .41 (1.6-3)	α .74
Identity subscale	2.07 ± .35 (1-3)	α .79
Challenge subscale	2.44 ± .33 (1-3)	α .74
Relationship subscale	2.17 ± .34 (1-3)	α .70
Personal Wellbeing Index-Adult (scores 0-10)	6.9 ± 1.25 (1.7-9.8)	α .85
Basic Psychological Needs Scale (scores 1-5)	3.1 ± 0.15 (2.5-3.7)	α .87
Autonomy subscale	2.93 ± 0.29 (2-4)	α .76
Competence subscale	3.66 ± 0.37 (2.3-4.7)	α .53
Relatedness subscale	2.8 ± 0.33 (1.4-4)	α .84
Maternal affection		
Postpartum Bonding Questionnaire (scores 0-5)	0.5 ± 0.36 (0-2.9)	α .90
Maternal emotional wellbeing		
General Health Questionnaire (scores 0-3) **	1.24 ± 0.53 (0.7-1.8)	α .90
Maternal adaptation		
Sense of Coherence (overall) (scores 1-7)	4.29 ± 0.93 (1-7)	α .86
Manageability subscale	4.04 ± 1.14 (1-7)	α .68
Meaning subscale	4.7 ± 0.98 (1-7)	α .64
Comprehensibility subscale	4.15 ± 1.11 (1-7)	α .74
Coping Operations Preference Enquiry (scores 1-4)		α .74

Problem solving subscale	2.75 ± 0.63 (1-4)	α .71
Avoidance subscale	1.76 ± 0.38 (1-4)	α .61
Positive thinking subscale	2.48 ± 0.55 (1-4)	α .65
Seeking social support subscale	2.53 ± 0.65 (1-4)	α .82
Acceptance and Action Questionnaire (1-7)	5.15 ± 1.26 (1-7)	α .93

* The Euclidian distance showed an overall life balance score: the equivalence scores among the LBI health, relationship, identity, and challenge subscales = 0.4, representing perceived life balance (Matuska, 2010).
**Heightened GHQ-12 scores >12: n = 168/ 22.9%, indicating reduced emotional wellbeing

Multiple linear regression analysis

Multiple linear regression analysis was performed with maternal life balance as the dependent variable. We observed no multicollinearity among the independent variables. Multiple linear regression analysis showed (in a descending order of strength of association) that sense of coherence, level of education, seeking social support and shared parenting, have a significant positive relationship with maternal life balance. Reduced emotional wellbeing, a lower income level, lower maternal age and a non-Flemish background, have a significant negative relationship with maternal life balance (Table 4). Visual interpretation of the histogram and scatterplot showed no observations outside the overall pattern of distribution. Although none of the cases exceeded the criteria of Cook's distance, the average leverage or Mahalanobis distance, case-wise diagnostics showed that there were 26 potential outliers. The outliers were women with a non-Flemish background. We removed the outliers but observed no difference in the R^2 (.72) of the two models. All covariates but one, a non-Flemish background (*B* -.132, *p* .07), remained significant (Table 4). Due to the significant differences in maternal life balance between mothers from different age groups, we performed an additional linear regression analysis recoding maternal age as a continuous variable in various age groups (21-25, 26-30, 31-35, 36-40, ≥41 years). The analysis revealed significant negative relationships between maternal life balance and the age groups 31 to 35 (*B* -.009, *p* <.001), 36 to 40 (*B* -1.00, *p* .045) and ≥41 (*B* -.221, *p* .004). Because there were no significant differences in maternal life balance between women with one and with ≥2 children or with children in different age groups, we performed no additional analyses for these subgroups.

Table 4. Multiple linear regression analysis of factors of maternal life balance

Factors	***B***	***t***	***p*-value**	*p*-value[a]	**95% CI for *B***	
					Lower bound	Upper bound
(Constant)	3.214	13.410	.000	.000	2.743	3.684
Maternal age	-.009	-2.566	.011*	.02*	-.016	-.002
Number of children	.033	1.794	.073	.354	-.003	.069
Level of shared parenting with the other parent	.080	2.171	.030*	.036*	.008	.152
Having younger children	.009	1.114	.266	.430	-.007	.026
Having older children	-.008	-1.180	.239	.440	-.022	.006
Level of education	.035	3.970	.000**	.000**	.018	.052
Other ethnic background than Flemish	-.144	-2.068	.039*	.066	-.281	-.007
Religion	.041	1.383	.167	.240	-.017	.099
Paid work status	-.100	-1.266	.206	.348	-.255	.055
Income level	-.144	-3.673	.000**	.000**	-.221	-.067
Bonding	.024	.350	.726	.861	-.111	.159
Sense of coherence	.157	6.231	.000**	.000**	.107	.206
Reduced emotional wellbeing	-.273	-7.342	.000**	.000**	-.346	-.200
Problem solving	.002	.089	.929	.904	-.050	.055

Avoidance	.036	.730	.466	.317	-.061	.133
Positivism/ positive thinking	.005	.178	.859	.974	-.055	.066
Seeking social support	.064	2.676	.008*	.003**	.017	.111
Flexibility	-.027	-1.266	.206	.085	-.255	.055

*p <.05, ** p <.001; R^2 of all factors .72; F-test (27.832) of overall significance p <.001; Cook's Distance .002; Mahalanobis Distance 21.9; Leverage value .003.

[a] Model with removed potential outliers (n=26) R^2 of all factors .72; F-test (26.880) of overall significance p <.001

Discussion

Despite the fact that finding and establishing an equilibrium during the early years of motherhood can be a challenge (Craig & Sawrikar, 2009; Emmanuel *et al*., 2011), the participating mothers in general perceived maternal life balance. Women indicated that the higher the level of involvement of the other parent in the upbringing of children and the more women themselves sought social support, the more they perceived maternal life balance. These variables indicate that maternal life balance is related to social interaction, either with the other parent, significant others such as family and friends or with other people in the mother's neighbourhood or environment (Lang Reschke & Neyer, 2006; Vlachopoulos & Michailidou, 2006) – reinforcing that mothering is a social matter and that motherhood is a social phenomenon.

Most women in our study were in a relationship and living in family settings that indicated either the presence of or contact with the co-parent. Because of the quantitative design of our study we did not gain insight in how women perceived motherhood. If they approached motherhood from a feminist perspective, if they thought that motherhood is dictated by gender regimes, whether they viewed motherhood as a traditional patriarchal construction, an essentialist fact, a natural talent or as a conscious collaborative activity (Cowdery & Knudson-Martin, 2005; Bollen, 2015). We are aware that nowadays women still feel pressured to idealise motherhood (Thompson, 2006), but we do not know if or how these thought processes occurred among our participants. Future qualitative research would be of merit to better understand the interpretation of perceived maternal life balance of women in Flanders. Our sample contained predominantly women in cohabitation and domestic partnerships. We can, however, not assume that this implies that our participants had moved into collaborative parenting and had an equal division of caretaking and household tasks between themselves and the other parent (Cowdery & Knudson-Martin, 2005; Losoncz & Bortolotto, 2009). It is also important to note that meaning and practice of motherhood is directly related to how co-parenthood is perceived and constructed. It would be of worth to involve co-parents in a future multi-actor study and to examine co-parents' perceptions of motherhood and of collaborative parenting.

Most women in our study had a high income and education status and had jobs with a mean fulltime equivalence of 77%. Education level showed a positive relationship with maternal life balance while income level showed a negative relationship with maternal life balance. Household incomes above the average and high working percentages of western mothers are known to be associated with tension between working hours and mothering during motherhood and with reduced life satisfaction among working mothers (Losoncz & Bortolotto, 2009; Pollmann-Schult, 2013; Luppi & Arpino, 2016; Stanca, 2016). Worldwide data of mothers in high income countries shows that maternal life balance is lower among older mothers (Stanca, 2016). A fact that also applies to the women in our study, to women ≥31 years of age in particular.

Perceived emotional wellbeing of mothers is associated with a strong sense of coherence (Widarsson *et al*., 2014; Hildingsson, 2017). Both these aspects were related to perceived maternal life balance in this study.

Maternal sense of coherence is the extent to which a woman has the feeling of confidence that her life as a mother is foreseeable and that things will work out as well as can reasonably be expected. Generally, a strong sense of coherence is associated with reduced anxiety and depression and can predict the likelihood of reduced emotional wellbeing (Lindström & Erikson, 2010). In this study, emotional wellbeing was significantly related to maternal life balance. Similar to a Dutch study with a comparable sample of women as in this study: predominantly white, in a relation and with a high education and income status (Fontein-Kuipers *et al*., 2015), one in every four to five women was more likely to experience reduced emotional wellbeing. This suggests that is of merit for health professionals to assess the emotional wellbeing of all mothers. The characteristics of our sample might suggest that most of the women in our sample were in a fairly stable and comfortable position in life, and on face value in untroubled conditions. MBRRACE-UK (2018), however, reported that women in this 'untroubled' group seem to be very vulnerable to develop emotional distress. As these 'mainstream women' are part of health professionals' care, it is important that they are aware that vulnerable mothers can be found among populations where, on the surface, distress is least expected.

Our findings underscore the fact that healthcare professionals may not 'label' women, based on observations or assumptions related to socio-economic characteristics. Because of women's diverse experiences of motherhood, it can be argued that all mothers are originally and inherently vulnerable, irrespective of socio-economic factors (Lotz, 2017). Mothers are therefore entitled to specific attention of health professionals during transition and adaptation of maternal identity and role attainment in order to achieve and maintain life balance. Based on our findings it can be recommended that healthcare practitioners being involved with mothers and with mothers to be, to involve the co-parent during care, to assess the woman's social support system and to facilitate peer expertise when necessary, or organise or refer to drop-inn neighbourhood services (Dennis, 2012; Johnson, 2015; McLeish & Redshaw, 2015). These support strategies are not only appropriate for vulnerable groups of women but as well as for women without obvious risk profiles (Rowe, Barnes & Sutherns, 2013) – bearing older mothers in mind. Also, women's perceptions and values regarding socio-economic factors such as education, work and income and the influence of these factors on maternal life balance should be topics of discussion in preconception, antenatal and postnatal services. Healthcare practitioners should facilitate the discussion during which a woman can explore her thoughts and ideas on the practical realities and her (future) strategies how to entwine domestic, personal and professional spheres, to address work-family conflicts and how to combine or negotiate maternal and professional identities to avoid or minimise inter-role tension. Healthcare practitioners should engage in contemporary debates with women around mothering and motherhood. When we relate the elements of sense of coherence: comprehensibility (cognitive aspect), manageability (balancing the load) and meaningfulness (shaping outcomes) of maternal life balance to healthcare services for (expecting) mothers, it can be suggested that health professionals should have an interactive dialogue about what is involved when be(come)ing a mother (Lindström *et al*., 2017). Health professionals should provide structured and comprehensible information about the mother role and the maternal identity and encourage the woman to reflect on her resources to cope with motherhood. Health professionals should address women's concerns about motherhood and discuss what motherhood means to an individual woman; if she is willing to commit to the mother role and to her identity as a mother (Mercer, 2004; Mercer, 2006). Mothers should be offered the possibility to talk about the difficulties experienced during the process of transition to and adaptation of motherhood, which helps them to make sense of their life as a mother. Because role models contribute to maternal sense of coherence (Widarsson *et al*., 2014), involving other

mothers to share sensitive information with and who provide social support would be beneficial for maternal confidence (Kweekel *et al*., 2017; Lindström *et al*., 2017). The suggested strategies to support and to reinforce maternal life balance, require theoretical and practical professional knowledge including transition-related content knowledge and guidance in communication focused on topics such as coping and resilience (Lindström *et al*., 2016).

There are limitations to this study. We predominantly included reports of the second to fourth year of motherhood. Although the amount of variation in maternal distress explained by the regression model was high (R^2 = .72), we appreciate that motherhood is diverse. We therefore tried to address heterogeneity in our analyses. Healthcare-related research with a focus on maternal life balance and its determinants has currently a strong focus on subpopulations with risk profiles of vulnerability (van der Hulst *et al*., 2018). The non-responders to this study had lower incomes compared to the responders. It might be that we have missed information on the relation between income and maternal life balance as it has been suggested that poverty challenges maternal life balance (Bollen, 2015). The limited inclusion of less affluent women can be regarded as a flaw of this study. We however believe our sample, represented a general population of Flemish mothers (SPE, 2018; Statistics Belgium, 2018). There are likely to be cross-countries variations as motherhood and thus maternal life balance are not universal experiences. Generalisability of our findings is therefore limited to similar populations of women as in our study. Removing the potential outliers suggests that maternal life balance of women with non-Flemish backgrounds might be related to other factors than shown in this study. Therefore, future research for this subgroup is recommended. Additionally, self-selection might have led to sampling bias. Self-selection might have been a result of our recruitment through Facebook, although Facebook has been proven to be a useful tool to selectively recruit participants in health research, showing good representation of target groups (Whitaker, Stevelink & Fear, 2017).

Conclusion

Although the women in our study perceived maternal life balance, Flemish mothers need professional and peer support with a focus on the psychosocial dimensions of motherhood, irrespective of socio-economic characteristics. Older mothers require attention. The main job of the health professional is to support and to reinforce maternal life balance. Support should ideally include the dialogue about transition and adaptation of the maternal identity and maternal role attainment. Health professionals should address women's concerns about motherhood, women's coping resources and what motherhood means to each woman on an individual intra and interpersonal level. Assessment of emotional wellbeing is also required. Services for mothers should include lay providers of social and supportive care. The identified strategies will help women to establish and maintain maternal life balance during the early years of motherhood. Education of health professionals about theories and content knowledge of motherhood, maternal life balance and its determinants and future research, including the co-parent, maternal age and mothers with a non-Flemish background, are warranted.

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Disclosure of Interest
The authors report no conflict of interest.

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