

Personal, Social, and Behavioural Factors Influencing Women's Well-being During the Pre- and Postnatal Period

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Abstract

The present literature review contributes to a wider understanding of mental well-being in women who undergo demanding transitional phases, mainly described in negative terms in the literature: the pregnancy and the postnatal period. The aim was to gather information about factors that provoke high levels of mental well-being in new and expecting mothers. For this purpose, a total of 15 articles were reviewed, and the results showed that factors could be categorized into personal, social, and behavioural factors. Predominantly, social and personal factors were related to higher levels of mental well-being during the pregnancy and postnatal phase. Most prevalent, social support and psychological strengths/coping mechanisms enhanced the probability of flourishing. The surprisingly high well-being rates of the included samples can be seen as a first step towards the equilibration of the biased negative view towards childbirth. Further research is needed to prove that pregnancy and the postnatal period can be seen as beautiful life phases. More precisely, it is essential to agree on a standardised measurement for overall well-being and to consider factors of emotional well-being as independent variables. Also, the conduction of longitudinal experiments on social (e.g., social support) and psychological factors (e.g., self-esteem) is suggested to offer insight into the causation between those factors and women's well-being. A future direction would then be the implementation of interventions in order to offer (social) support that women may need during transitional phases, and thus, sustain and heighten their mental well-being.

Keywords: Positive psychology, pregnancy, postnatal period, mental well-being, flourishing

Introduction

Adulthood is a very challenging but beautiful life phase as it is the stage in which we are independent of our parents, choose an education or profession, leave our comfort zone, develop our personality, and experience romantic partnerships (Emirhaizovic et al., 2022). From the societal perspective, finding a partner can be seen as an important aspect because the formation of a family is often understood to be a part of the life phase of young adulthood (Albert et al., 2022). While some hold to the traditional view and prefer an earlier family formation, other adults take more time until they plan to become parents. The latter opinion is frequently obtained in Western countries, where individualisation and emancipation induced a postponement of family formation and a lower birth rate than in other countries or during earlier decades since adults of Western societies do not bound their parenthood to a specific age anymore (Albert et al., 2022). For instance, the mean age for German women bearing their first child was 25 years in the year 1975 and raised to 30 years in the year 2021 (Federal Statistical Office “Destatis”, 2021).

Albert and colleagues (2022) explain this phenomenon through the time-consuming education of young European adults, the difficulty in finding a permanent job, and the (financial) dependency on their parents. Children implicate huge responsibilities and adults from individualized countries need to feel ready for this life-changing new step. That the readiness can be beneficial for parents is shown by Myrskylä and Margolis (2014), who demonstrate in their study that late fertility (at the age of 35 years upwards) leads to higher happiness rates for mothers compared to women who delivered their babies at a younger age. Childbirth, if postponed or not, is a present desire of adults around every population in the world, but whether their wish to start a family comes from an instinct or results from societal expectations is debatable and depends on the individual (Ulrich & Wheatherall, 2000).

Nonetheless, the excitement and pleasure that may be associated with childbirth, are

rarely mentioned in the literature, as the opposite is highlighted. Both the prenatal period (synonym for pregnancy) and childbirth itself are predominantly described in terms of side effects, implications, and negative experiences or consequences (Jevitt et al., 2012; Simkin, 1992). For example, childbirth means a permanent role change for the expectant mother, her partner, and their relatives, and the birthing period itself, including the pregnancy phase, is associated with emotional stress and physical pain (Simkin, 1992). Further, researchers found that women in the prenatal period were more recently suffering from depression and anxiety (Lee et al., 2007; Figueiredo and Conde, 2011).

Similarly, the postnatal/postpartum period, the phase after giving birth, is less researched in terms of positive mental health or well-being. Instead, it is focused on factors predicting postnatal depression (Blom et al., 2010), postnatal anxiety (Leach et al., 2017) or tiredness and fatigue (McQueen & Mander, 2003), to name just a few. Thus, expectant parents, and especially expectant mothers, seem to accept many negative consequences when they decide to have a baby.

Despite these negative aspects, a child often seems to be perceived as a fulfilment by their parents; through interviews with mothers of newborns, Delle Fave et al. (2013) came to the conclusion that children give their mothers meaning. In the qualitative study by Lundgren (2005), women were interviewed about their childbirth experiences two years after giving birth. One outcome was that when mothers had positive experiences and memories of giving birth, they felt inhibited to tell that, as this may evoke the impression of asserting themselves over those who had negative experiences. Therefore, it is assumed that positive childbirth experiences are not necessarily rare but may be less brought up.

Positive Psychology

Positive psychology shifts its interest away from treating and diminishing mental illnesses, towards enhancing mental well-being (Seligman & Csikszentmihalyi, 2000). Keyes

(2002; 2005; 2007), one of the most known researchers in this field, developed the “two-continua model” which follows the view that well-being and mental illness are related, but two different continua. Hereby, Keyes defines mental/overall well-being to consist of three sub-domains: emotional, psychological, and social well-being. Individuals who show high levels of emotional well-being are happy, satisfied and interested in life, while those scoring high on psychological well-being are well functioning during daily life, have positive relations with others and are satisfied with their own way of life (Westerhof & Keyes, 2010). Further, social well-being is regarded as high when feeling integrated, contributing to, believing in, and making sense of society (Galderisi et al., 2015).

Moreover, overall well-being can be understood as the integration of emotional, social, and psychological well-being (Westerhof & Keyes, 2010). Although people who score high on overall well-being, called “flourishers”, have the advantage of fewer physical impairments and mental illnesses, it is not excludable for them to have a mental illness and vice versa (Keyes, 2002, 2005 & 2007). For example, 20% of postnatal women classified as flourishing in the study of Monteiro et al. (2021) also showed depressive symptoms.

The development of Keyes’ (2002) two continua model was important to correct the traditional view of mental well-being and psychopathology being opposites. Furthermore, it encourages individuals with mental illnesses to experience positive emotions and thoughts in order to enhance their overall well-being. The benefits are numerous; for instance, flourishers have better physical and emotional health, greater psychosocial functionality, and fewer daily life limitations or missing days at work (Keyes, 2002; 2007). Moreover, they have been shown to recover faster from anxiety and mood disorders (Schotanus-Dijkstra et al., 2019).

Present Study

Despite the several advantages of flourishing, positive psychology within the pre- and postnatal research is still in its infancy, and factors relating to and leading to the positive

mental well-being of (expecting) mothers are limited. The current research can be understood as a step towards equilibrating the biased view of childbirth by analysing and reviewing literature about psychological and behavioural factors that evoke positive overall well-being during the prenatal and postnatal phases. This can be an enrichment for women as strengths and resources will be highlighted that help to adapt to these physically and emotionally challenging life phases. For this purpose, a systematic literature review was conducted to examine what is known about mental well-being in women who experience(d) the prenatal and postnatal period.

Method

Protocol

The present study followed the guidelines of the Preferred Reporting Items Systematic Reviews and Meta-Analyses (PRISMA; Moher et al., 2010).

Search Strategy

For this literature review, the databases PsychInfo (Ebsco), Scopus, and Google Scholar were scanned. To identify relevant literature, the following search terms were used: “mental well-being” OR “positive mental health” OR flourish* OR happiness AND pregnancy OR prenatal OR perinatal OR postnatal OR postpartum OR childbirth, AND mother* OR matern* to ensure records that focus on the female perspective only. In addition, the references from the article of Delle Fave et al. (2013) were screened for inclusion as their research topic was strongly related to the current one.

Eligibility Criteria

Only articles written in English and published recently (not older than the year 2000) were included. Studies conducted in Africa or treating African women could not be taken into the shortlist because of their high maternal mortality rates (see statistical database “Statista”, 2021), indicating a bad health care system and making birth incomparable to other studies.

Research in other undeveloped countries referring to pre- or postnatal well-being was rare and not included either. Scientific papers relating to psychopathology in their title (e.g., depression, stress, anxiety, or disorder) were excluded¹ because of the single interest in mental well-being (e.g., flourishing, life satisfaction, happiness, etc.). Reviews, dissertations, book chapters, articles that were not peer-reviewed, and purely qualitative studies were also excluded to facilitate the comparison to the predominantly quantitative studies.

Selection of Studies

By the search through the electronic databases and based on the search terms, relevant articles were identified. Afterwards, duplicates were removed. Next, titles and abstracts were screened by the main author (E.B.). Studies that passed the screening for eligibility were included in the further process of full-text screening. During the full-text screening phase, it was decided to categorize the articles. For facilitation, articles that could not be categorized were excluded.

Data Charting Process

The following data were extracted from the included articles: Source (first author(s) and year of publication), country, participants' condition, study design, time points of testing, outcome measures, and category of well-being (overall mental/ emotional/ psychological well-being).

Results

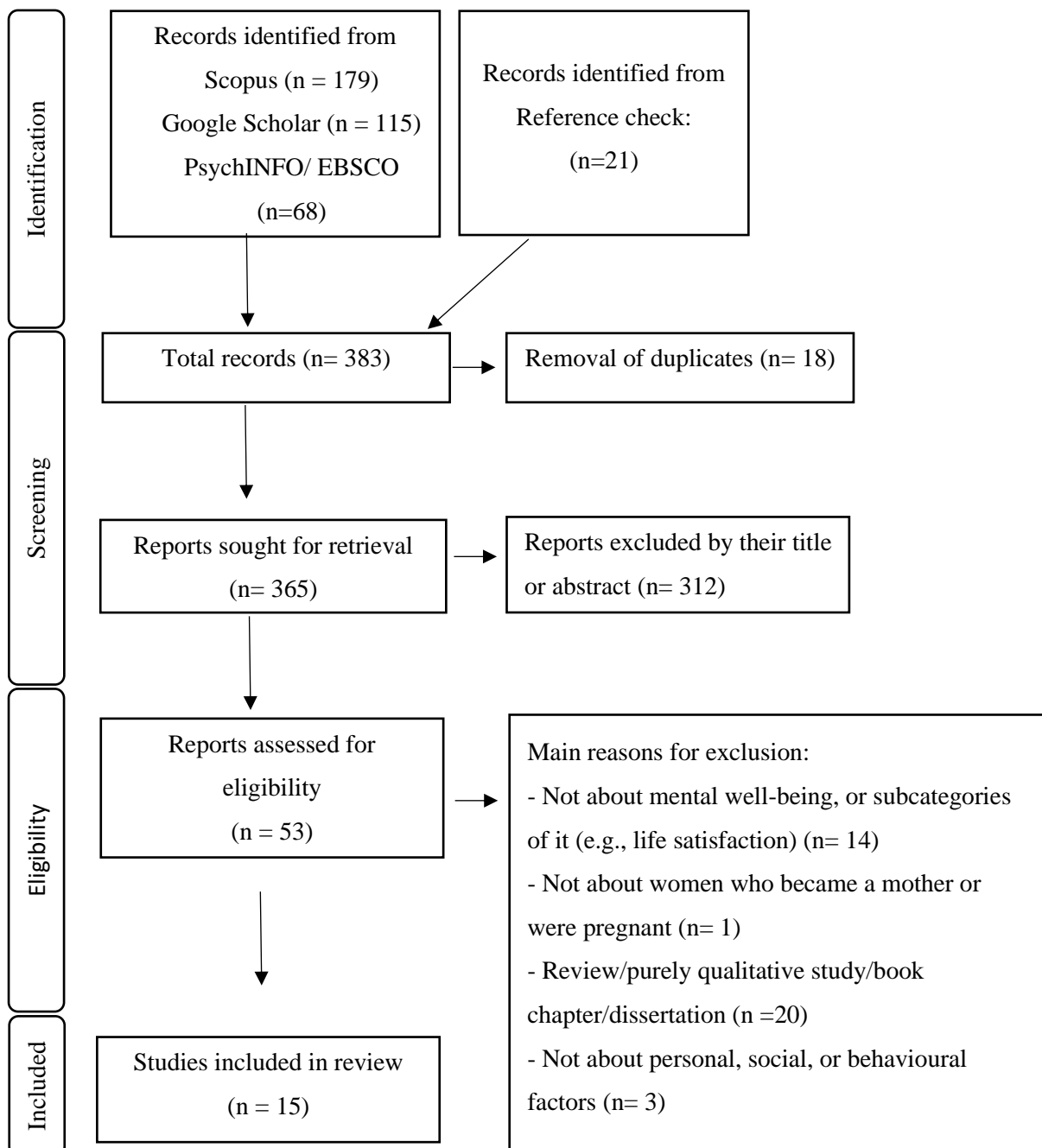
During the progress of results taking, the facility appeared to divide the resulting factors into categories. Thus, it was determined to present the results by means of three main categories of factors that were found to have an influence on the mental well-being of the included

¹ The database PsycInfo (Ebsco) generated 2.147 results instead of 68 when psychopathological terms were included in the search, and when "mental well-being" was changed to "well-being" instead (search date: 07.12.2022).

samples, namely: personal, social, and behavioural factors. Thereby, personal factors are described as mental strengths or character traits that relate to the internal self (e.g., autonomy, self-acceptance, cognitive coping strategies, etc.), while social factors depend on the interaction and interrelation with near others (e.g., social support, relationship satisfaction, marital quality, etc.). Last, behavioural factors are determined as the women's activities affecting their well-being.

Study Selection

After following the search strategy, 383 records were found. From these records, 179 were retrieved from Scopus, 115 from Google Scholar, 68 from Ebsco (PsychINFO), and 21 from single sources through reference checks. In the screening phase, 18 duplicates were removed, resulting in 365 articles. From these, 312 articles could be excluded based on their title and abstracts that did not fulfil the aforementioned eligibility criteria. The remaining 53 articles were read full-text and screened for their relevance. Thirty-eight of them had to be excluded from the results for the following reasons: they were reviews, qualitative studies, book chapters and dissertations (n=20), they were not about mental well-being or its subcategories (n=14), not about pregnant women or mothers (n=1), or not about personal, social, or behavioural factors (n=3). Figure 1 displays the process.

Figure 1*Results of Literature Search and Selection Process*

Note. PRISMA flow diagram for systematic reviews. Adapted from “The PRISMA 2020 statement: an updated guideline for reporting systematic reviews”, by M. Page, J. McKenzie, P. Bossuy, I. Boutron, T. Hoffmann, C. Mulrow, & D. Moher, 2021, *International journal of surgery*, 105906(88), (<https://doi.org/10.1016/j.jclinepi.2021.03.001>). Copyright 2023 by Elsevier. Adapted with permission.

Study Characteristics

Women's mental well-being was investigated in various countries and continents. Israel was the most popular country in this review because five of the fifteen studies were conducted there. For the remaining studies, each was conducted in another country, namely Columbia, USA, Australia, Brazil, Portugal, Norway, Poland, the Netherlands, Italy, and Germany (see Table 1). The study design was either longitudinal (n=8) or cross-sectional (n=7) and purely quantitative (n=14), besides the study of Delle Fave et al. (2013) who followed a mixed methods design. The time points varied from five years before, until five years after childbirth but were mainly within the months near birth. Asselman and colleagues (2012) asked women with the wish to have children each year over a period of 16 years to fill out the SF-12v2, and thus, retrospectively identified their well-being five years prior the childbirth.

The sample sizes ranged from 19 to 67,355 (Median= 261) and the age of the participants was between 16 and 49 years. Women's mental well-being was assessed within six categories: emotional well-being (n=5), psychological well-being (n=1), overall mental well-being (n=6), and a combination of psychological and overall well-being (n=2), as well as a combination of emotional and psychological well-being (n=1). The studies depicted in Table 1 were sorted by the type of study design (cross-sectional/longitudinal) and the type of well-being they treated, with cross-sectional studies and those treating emotional well-being presented first.

Table 1*Summary of Study Characteristics*

Authors, Year	Country	Number of participants	Age range (<i>M</i>) in years	Study design	Time points of measurement	Outcome measures (of well-being)	Mental well-being type
Blake et al., 2007	Columbia	N=1.044	18-52 (<i>M</i> = 25)	Cross-sectional, correlational	Pregnancy, no follow-up	Happiness (about being pregnant)	Emotional
Giurgescu et al., 2006	Midwestern United States	N=105	18-34 (<i>M</i> =28)	Cross-sectional, correlational	Pregnancy, no follow-up	The Psychological General Well-being Index “PGWB”	Emotional
Calou et al., 2018	Brazil	N=261	n.r., (<i>M</i> =28)	Cross-sectional, correlational	Pregnancy, no follow-up	Health-related quality of life	Overall
Johnstone & Mulherin, 2019	Australia	N=86	16-24 (<i>M</i> =21)	Cross-sectional, correlational	Postnatal period, no follow-up	Flourishing scale (Diener et al., 2010)	Overall
Monteiro et al., 2021	Portugal	N=661	18-45 (<i>M</i> =32)	Cross-sectional, correlational	Postnatal period, no follow-up	Flourishing (MHC-SF)	Overall

Authors, Year	Country	Number of participants	Age range (<i>M</i>) in years	Study design	Time points of measurement	Outcome measures (of well-being)	Mental well-being type
Findler et al., 2008	Israel	N=148	21-43 (<i>M</i> =30)	Cross- sectional	Postnatal period, no follow-up	Mental Health Inventory (MHI)	Overall
Noy et al., 2014	Israel	N=414	19-45 (<i>M</i> =31)	Cross- sectional	Postnatal period, no follow-up	Mental Health Inventory (MHI) and Personal Growth “PTGI”	Overall & Psychological
Dyrdal et al., 2011	Norway	N=67.355	n.r. (<i>M</i> = 30)	Longitudinal	Early pregnancy, late pregnancy, six- and 36- months postnatal	Satisfaction with Life Scale (SWLS)	Emotional
Gebuza et al., 2014	Poland	N=199	17-44 (<i>M</i> =29)	Longitudinal	Mid/late pregnancy and within six weeks postnatal	Satisfaction with Life Scale (SWLS)	Emotional
Hoffenaar et al., 2010	Netherlands	N=19	24-39 (<i>M</i> =32)	Longitudinal	one month pre- and postnatal	Subjective well-being, positive and negative affect	Emotional

Authors, Year	Country	Number of participants	Age range (<i>M</i>) in years	Study design	Time points of measurement	Outcome measures (of well-being)	Mental well-being type
Delle Fave et al., 2013	Italy	N=19	24-40 (<i>M</i> =35)	Longitudinal, mixed-design	Mid-pregnancy and six months postnatal	Satisfaction with Life Scale (SWLS) & Psychological Well-being Scales	Emotional & Psychological
Taubman–Ben-Ari & Spielman, 2014	Israel	N=109	n.r.	Longitudinal	one month, five months & two years postnatal	Personal growth (PTGI)	Psychological
Porat-Zyman et al., 2019	Israel	N=561	19-45 (<i>M</i> =31,5)	Longitudinal	one month & one, two, four years postnatal	Personal growth (PTGI) and Mental Health Inventory (MHI)	Psychological & Overall
Asselman et al., 2022	Germany	N=1.912	17-49 (<i>M</i> =30)	Longitudinal, population-based panel study	Each year from five years pre-until five years postnatal	Mental Health Inventory (MHI)	Overall
Porat-Zyman et al., 2018	Israel	N=561	19-45 (<i>M</i> =31,5)	Longitudinal	one month & one, two, four years postnatal	Mental Health /Well-being (MHI)	Overall

Note. n.r. = Data not reported.

Review

To allow a comparison among the complex results of the included studies, the findings of factors are presented by the three main categories, namely (internal) personal, social, and behavioural factors which were hypothesized to positively influence a woman's well-being during the pre- and postnatal periods. The results are chronologically reported, thus, starting with the findings on the most relevant factors related to women's well-being during the pregnancy phases, followed by the results from the postnatal period, and ending with the findings from longitudinal studies lasting from pregnancy until postpartum. For each period, results from cross-sectional studies are first explained. When relevant, important sociodemographic factors are also described. Table 2 depicts a summary of the factors that were found, divided by their category (personal, social, behavioural, and others).

Factors Related to Mental Well-being During the Pregnancy Phase

Three of the fifteen studies were cross-sectional in their design and researched women's well-being during the period of pregnancy (Blake et al., 2007; Calou et al., 2018; Giurgescu et al., 2006). The most prominent finding is the factor of social support within the category of social factors: In all three studies, this factor was found to be related to the well-being of pregnant women. More precisely, expectant mothers who received support from near relatives or the child's father had the highest levels of emotional well-being (Blake et al., 2007; Giurgescu et al., 2006) and overall well-being (Calou et al., 2018). Another social factor associated with well-being was relationship status. Hence, women who were in a relationship during their pregnancy were found to have better emotional and overall well-being at that time than those without a partner (Blake et al., 2007; Calou et al., 2018).

Besides social factors, internal personal factors were highly associated with emotional and overall well-being. Thereby, healthy coping strategies (e.g., positive interpretation, having optimistic thoughts, seeking positive relations, etc.) were more often accessed by

expectant mothers whose happiness levels were higher than moderate, as they help to deal with negative affect and explore more positive thoughts (Blake et al., 2007; Giurgescu et al., 2006). Additionally, Blake et al. (2007) hypothesized pregnancy intentions to have an impact on emotional well-being and could verify that in the findings. Sixty-seven percent of women who wanted to become pregnant, also felt happy about their pregnancy when they found out, and 16% felt moderately happy, while only 4% of women felt unhappy while intending to become pregnant. In compliance with this, happy expectant mothers were less likely to have used birth control at the time they became pregnant (Blake et al., 2007).

Further, behavioural factors were assessed. Blake et al. (2007) found that expecting mothers who felt happy about the pregnancy were significantly associated with less risky behaviours (e.g., smoking cigarettes, drinking alcohol, or taking other drugs) and less psychosocial risks (e.g., being depressed in the past or having experienced partner violence) than those who were unhappy (Blake et al., 2007). Instead, these women made use of their behavioural coping strategies like going out with friends (Blake et al., 2007).

In regard to sociodemographic factors, Calou and colleagues (2018) found the role of occupation to have an influence, both a positive and a negative on the overall well-being of their sample. Almost nine per cent of pregnant women have counted occupation as a positive influence on their quality of life. On the other hand, 20% of their sample hypothesized occupation to have a contrary impact, thus being related to higher stress, workload, and fatigue, and decreasing their quality of life and overall well-being (Calou et al., 2018). For the rest of the sample, job and occupation had either none or a mixed influence on the expectant mothers' quality of life. Moreover, Blake et al. (2007) and Calou et al. (2018) reported a small correlation between well-being and age, with younger mothers having better rates of happiness/quality of life.

Table 2*Summary of Factors Related to Higher Well-being Divided by Category*

Authors, Year	Personal factors	Social factors	Behavioural factors	Others (e.g., sociodemographic factors)
Blake et al., 2007	<ul style="list-style-type: none"> - Intended pregnancy - Healthy coping strategies (e.g., positive attitude, optimism) - no depression 	<ul style="list-style-type: none"> - Being in a relationship/Being married - Social support from the child's father - Having a larger social circle 	Behavioural coping strategies (e.g., going out with friends)	<ul style="list-style-type: none"> - Less exposure to psychosocial risks - No use of birth control at the time of becoming pregnant
Giurgescu et al., 2006	<ul style="list-style-type: none"> - Healthy coping strategies 	<ul style="list-style-type: none"> - Social support 	/	/
Calou et al., 2018	/	<ul style="list-style-type: none"> - Social support - Being in a relationship 	/	<ul style="list-style-type: none"> - Occupation - Being younger
Johnstone & Mulherin, 2019	<ul style="list-style-type: none"> - Higher self-esteem 	<ul style="list-style-type: none"> - Being in a relationship 	/	/

Authors, Year	Personal factors	Social factors	Behavioural factors	Others (e.g., sociodemographic factors)
Monteiro et al., 2021	- Maternal confidence - Resilience - Self-compassion	- Appraising the support of others as good or higher	/	- Younger infant age
Findler et al., 2008	- Low stress levels - not having attachment anxiety	- Grandmother's support when coupled with difficult child temperament	/	/
Noy et al., 2014	- Healthy attachment styles	- Being a first-time mother - Grandmother's support	/	/
Dyrdal et al., 2011	- Relationship satisfaction	/	/	/
Gebuza et al., 2014	/	- Social support	/	/
Hoffenaar et al., 2010	/	/	- Leisure activities	- Being older

Source	Personal factors	Social factors	Behavioural factors	Others (e.g., sociodemographic factors)
Delle Fave et al., 2013	- Satisfaction with personal relations	- Personal relations	/	/
Taubman–Ben-Ari & Spielman, 2014	/	/	/	- Premature birth
Porat-Zyman et al., 2019	/	/	/	- Premature birth
Asselman et al., 2022	/	/	/	- Being older - First year pre-and postnatal
Porat-Zyman et al., 2018	- Secure attachment style	- Marital quality	/	- First-year pre-and postnatal

Factors Related to Mental Well-Being During the Postnatal Period

While social support was most often found to be related to higher well-being during pregnancy, the studies at hand mainly reported on personal factors (e.g., healthy attachment styles, maternal confidence) to be related to the mothers' overall well-being after childbirth. For example, Findler et al. (2008) and Noy et al. (2014) compared mothers of pre-term and full-term infants, and multiparous mothers with new mothers, in relation to mental well-being. Their samples differed in that Findler and colleagues (2008) focused solely on twin mothers, while Noy and co. (2014) included singleton mothers in their sample. Regarding internal personal factors, Findler et al. (2008) found low stress levels and having no attachment anxiety to be associated with high overall well-being. Similarly, Noy and colleagues (2014) found healthy attachment styles to correlate with high rates of overall well-being.

Moreover, Monteiro et al. (2021) showed that higher maternal confidence, resilience, and greater self-compassion were related to flourishing. In addition, Johnston and Mulherin (2019), whose sample consisted of new mothers whose ages ranged from 16 and 24 years, found self-esteem to be significantly related to flourishing. However, self-esteem worked here as a mediator for social support and a positive body image as independent variables. Thus, they found that social support and a positive body image enhanced the self-esteem of young mothers, which then heightened the likelihood of experiencing high overall well-being/ flourishing.

According to social factors, Findler et al. (2008) discovered grandmothers' support to be a moderator, as it was positively related to flourishing only when coupled with difficult child temperament. This is in contrast with Noy and colleagues (2014), who argued that grandmothers' support did not only play a moderating role but was directly related to high rates of overall well-being. More precisely, emotional support led to higher effects on overall

well-being than instrumental support. In agreement that social support may positively influence the mental well-being of mothers, Monteiro and her colleagues (2021) found that those women who rated their received social support to be at least “good” after childbirth, tended to have better overall well-being. Whether social support has a direct influence on a new mother’s overall well-being, as Monteiro et al. (2021) and Noy et al. (2014) reported, or whether it is accompanied by a mediator, as indicated by Johnstone and Mulherin (2019), is so far questionable.

There were no behavioural factors found to affect overall well-being, but concerning sociodemographic factors, Monteiro and her colleagues (2021) discovered a negative correlation between infant age and mothers’ well-being, with mothers of younger infants experiencing higher flourishing rates. Furthermore, results from both Findler et al. (2008) and Noy et al. (2014) demonstrated that first-time mothers were more often associated with high overall well-being compared to multiparous women, as well as overall well-being was higher when the baby was a full-term infant instead of a pre-term. Moreover, from the analysis of Johnstone and Mulherin (2019), it can be interpreted that being in a relationship may predict overall well-being in young first-time mothers. This is in accordance with the findings of Blake and colleagues (2007) and Calou and colleagues (2018) about pregnant women. Certainly, this is not approved by Monteiro et al. (2021), probably due to the age discrepancy of both samples, with younger mothers being more dependent on others and thus, showing higher levels of overall well-being when having a partner.

The findings of the cross-sectional studies can be summed up as follows: social and personal factors were mainly found to have a positive influence on women’s well-being during pregnancy and the postnatal stage. Hereby, social support was the most important factor as it was researched by all seven cross-sectional studies and found in five of them to significantly correlate with mental well-being. Moreover, strengths like having high self-

esteem and making use of healthy coping strategies (e.g., positive interpretation, going out with friends when being in a bad mood, etc.) were multiple times assessed to be related to emotional and overall well-being.

Longitudinal Studies on Mental Well-Being from Pregnancy on to Years After Delivery

The advantage of longitudinal studies over cross-sectional ones is that well-being levels can not only be seen at single time points but are assessed at multiple time points. This offers insights into the developments and changes in relationships and visualizes ups and downs. Overall, the included longitudinal studies, in which women were followed from pregnancy until months/years after delivery, reported high levels of emotional, psychological, and overall mental well-being over time, no matter the study duration. For example, in the small study sample of Hoffenaar and colleagues (2010), no one fell within the category of being depressed, and on average, they experienced high emotional well-being which did not change after pregnancy.

Even though emotional, psychological and overall well-being were only rarely experienced as low by the total sample, two studies showed that the highest levels of overall well-being were mainly related to the first year pre- and the first year post-partum (Asselmann et al., 2022; Porat-Zyman et al., 2018). Two other studies allocated the highest levels of emotional well-being to the first semester postpartum (Dyrdal et al. 2010; Gebuza et al., 2014). Interestingly, the female sample of Asselmann and colleagues (2022) showed peaks in overall well-being only for women at the age of 25 years or older, while younger women did not significantly change. Even though the overall well-being of these women slightly decreased each year, it remained high even years later (Asselmann et al., 2022). During toddlerhood, however, the emotional well-being of mothers can drop vastly and become much lower than during early pregnancy, as the study of Dyrdal and colleagues (2010) has shown.

Regarding social factors, “positive relations with others”, representing a dimension of the psychological well-being domain (Ryff & Keyes, 1995; Westerhof & Keyes, 2010), was predominantly found to influence the mental well-being of women who participated in the longitudinal studies. For example, similarly to the cross-sectional studies, social support was found to correlate positively with emotional well-being (Gebuza et al., 2014). Hereby, the relationship between emotional support and well-being was the strongest during pregnancy, while instrumental support was more appreciated after the child’s birth, leading to higher well-being in the postnatal phase (Gebuza et al., 2014). However, this is not in line with the findings of Noy et al. (2014), whose cross-sectional study showed that emotional support had a greater correlation with the well-being of new mothers than instrumental support. Moreover, Porat-Zyman et al. (2018), did not find a correlation between maternal support and overall well-being. Instead, they showed that secure attachment styles were related to the overall well-being of women undergoing the early postnatal period.

Delle Fave and colleagues (2013) who conducted a mixed methods design, studied the influence of personal relations. Their qualitative findings showed that personal relations, which were categorized into social factors, were meaningful for women during both phases, the pregnancy and the postnatal period. However, their satisfaction with personal relations got lower six months after their second child was born, compared to the time they underwent mid-pregnancy (Delle Fave et al., 2013).

Within the category of personal factors, relationship satisfaction (Dyrdal et al., 2010) and marital quality (Porat-Zyman et al., 2018) were found to be related to overall and emotional well-being and influencing it even years later. Therefore, women who were highly satisfied with their relationship during pregnancy were most likely to be satisfied with their lives three years later (Dyrdal et al., 2010). From these factors which belong to psychological well-being, it is assumed that women would strive for positive relations and psychological

well-being, during pregnancy as well as after childbirth.

This is also approved by Delle Fave et al. (2013) who asked women about the most meaningful things just before and after childbirth and received the terms “work” and “family” as the main responses. The women’s motives to mention work or family as the most meaningful things were mainly based on psychological motives, e.g., the need for support, personal growth, meaning, self-actualization, and harmony/balance, all representing eudaimonic well-being. Hereby, hedonic motives such as positive emotions and satisfaction were rarely mentioned during pregnancy and were even absent after delivery. In addition, the sample of Delle Fave et al. (2013) was also asked about their definition of happiness. Both eudaimonic and hedonic aspects were equally crucial for the definition of happiness in pregnant women, although, after delivery, women defined happiness mostly by eudaimonic aspects. As a result, women and especially mothers weighed social and psychological well-being higher than their emotional well-being, even though the strive for psychological well-being was often impeded by the birth of the second child (Delle Fave et al, 2013).

Also within the domain of psychological well-being, Taubman-Ben Ari and Spielman (2014) and Porat-Zyman et al. (2019) conducted longitudinal studies to assess personal growth in women during the postnatal period. In both, mothers of prematurely born children experienced higher personal growth than mothers of full terms. Further, Porat-Zyman and colleagues (2019) identified initial overall well-being and its enhancement over time to positively correlate with personal growth four years postpartum. Thereby, Porat-Zyman et al. (2019) offered a perspective of personal growth arising from mental well-being and that higher personal growth could result from enhanced levels of overall well-being. This may explain the findings of their earlier study from 2018 in which mothers of full-term infants were associated with higher overall well-being but did not show a significant increase over time, compared to mothers who gave birth prematurely, indicating that the experience of a

premature birth leads to higher personal growth and thus, greater improvements of overall well-being.

Regarding behavioural factors, leisure activities were evaluated which Hoffenaar et al. (2010) found to be related to positive affect in women when performed during the postnatal period. In agreement, the sample of Delle Fave and colleagues (2013) experienced a drop in happiness with leisure and personal relations after the birth of their second child, when the time for it became rare.

From the demographic perspective, Asselman et al. (2022) and Porat-Zyman et al. (2018) agree in their findings that women with high overall well-being were often older than their counterparts. However, without mentioning the exact ages, researchers of the cross-sectional studies found pregnant women with prominent levels of happiness and quality of life to be slightly younger (Blake et al., 2007; Calou et al., 2018).

To give an overall summary of the findings, the samples of the reviewed studies appear to enjoy the whole process of becoming a mother, while the longitudinal studies showed that the first year postpartum was seen as the most pleasurable phase for the women of the samples (Asselman et al., 2022; Dyrda et al., 2010; Gebuza et al., 2014; Porat-Zyman et al., 2018). Moreover, factors that belong to the psychological well-being domain, like positive relations or personal growth, were also positively related to emotional and overall mental well-being. Multiple studies showed that age may predict mental well-being rates during the pre- and postnatal period, but younger women were predominantly related to better well-being in cross-sectional studies, while older age was associated with better well-being in longitudinal studies.

Discussion

The central aim of this scientific literature review was to examine what is known about positive mental well-being in women who experienced the prenatal and postnatal

periods and to find potential determinants of high well-being. To accomplish this, fifteen articles were thoroughly studied that dealt with overall mental well-being, or its subdomains. While the topic of mental well-being is scarcely treated in the literature, the articles that were found all varied in their research topic and differed from each other in their findings. Consequently, it was decided on the three categories of factors (personal, social and behavioural).

Main Findings

After reviewing all fifteen articles, it stands out that the study samples scored overall well, and particularly attained high levels of well-being during both the pre- and postnatal periods. In concordance, the findings from the cross-sectional study of Monteiro et al. (2021) showed that mothers' overall well-being correlated with younger infant age, substantiating the hypothesis that proximity to birth may be a significant predictor for well-being. This is consistent with studies outside this review. For example, Myrskylä and Margolis (2014) found increased happiness rates in parents around the birth of their children and other researchers referred to the higher happiness rates of women in the weeks following birth and termed this phenomenon the "baby honeymoon" (see Crawford and Unger 2004; Harriman, 1983; Hobbs, 1963). This positive outcome is also shared by researchers of qualitative studies, who were told by mothers that their children give meaning to them and make them happy (Delle Fave et al., 2013), even when they were teenagers and had wished not to become a mother at the time they found out about their pregnancy (White et al., 2018). Therefore, it is assumed that the women in this review were indeed positively stimulated and faced the birth of their child with an exciting and positive attitude.

Factors that were found in this review to most significantly influence the well-being of (expecting) mothers were of a personal and social nature. Hereby, the most highlighted social factors were all related to one of the six elements of psychological well-being, namely

“positive relations with others” (Keyes, 2007; Westerhof & Keyes, 2010). The literature describes this element as “having satisfying personal relationships in which empathy and intimacy are expressed” (Westerhof & Keyes, 2010, p.111). Accordingly, one predominant factor within the element of positive relations was social support.

The findings at hand are in line with existing research. The main effect model of social ties and mental health, for example, explains that social ties and participation in social networks positively affect well-being (Cohen, 2002; Kawachi & Berkman, 2001). Secondly, the stress-buffering model represents the hypothesis that social support is mainly or solely effective in situations of perceived stress, thus buffering the receiver or seeker of social support from potential risks to their mental and physical well-being (Kawachi & Berkman, 2001; Rodriguez et al., 1998). Nierop and colleagues (2008) investigated the effect of social support on women’s stress levels during pregnancy and found that social support was indeed enhancing their mood and reducing their perceived stress, thus, supporting the stress-buffering hypothesis for pregnant women. McGovern and colleagues (2011) also found a positive correlation between social support and women’s well-being during the postnatal period. To conclude, existing literature together with this review highlights the importance of social support on the well-being of women who undergo the demanding life episode and role change of becoming a mother.

The findings of the present review also support the importance of personal factors, like psychological strengths, as they are hypothesized to influence women’s well-being in both life periods. The personal factors from the results at hand resemble elements of Keyes’ definition of psychological well-being such as self-acceptance, autonomy, environmental mastery, and personal growth (Westerhof & Keyes, 2010). For example, self-esteem, in our results, was assumed to enhance well-being during both phases, either directly or through the role of a mediator.

Available studies can verify the importance of psychological traits and their effect on women's mental well-being during the transition into motherhood. For instance, the study by Raudasoja and colleagues (2022) has shown that self-esteem relates to the subjective experience of childbirth. In their study, women with high self-esteem not only rated their birth experience more positively but also showed a weaker relationship between fear of childbirth and subjective birth experience than women with lower self-esteem. Consequently, elevated levels of self-esteem worked as a buffer against the harmful effect of childbirth fear on a woman's subjective birth experience (Raudasoja et al., 2022). Further, Grote and Bledsoe (2007) found that high optimism during pregnancy was related to fewer risks for postnatal depression. Hence, whether psychological strengths can act as reinforcers for well-being or are merely hindering the risk of evolving psychological illness, requires further research.

While both social and psychological well-being, as two of the three well-being components of Keyes, are recognized in the findings at hand, factors relating to "emotional well-being" (Westerhof & Keyes, 2010) are scarcely reported on. An explanation could be that women in transitional phases have other priorities than their emotional well-being while adapting to motherhood, as was shown by the qualitative results of Delle Fave et al. (2013). In their study, women were asked about their definition of happiness, their description of the most meaningful things to them, and their motives underlying their most meaningful things. While both eudaimonic (=psychological and social) and hedonic (=emotional) aspects were used to define happiness before childbirth, overly eudaimonic aspects appeared to be present in the definitions after birth. Surprisingly, after childbirth, none of their motives underlying the most meaningful things referred to hedonic well-being. Therefore, it is hypothesized that women change their personal definitions of happiness, according to the circumstances they are in, and thus, withdraw their emotional well-being after they give birth.

This finding gives an important impulse to not only refer to the obvious (e.g., the presence or absence of positive emotions) but to the overarching when it comes to overall mental well-being. Thus, instead of focusing on emotional well-being only, women's well-being needs to be accurately studied by referring to all three aspects, psychological, social, and emotional well-being, in order to gain the overall picture of their mental well-being. Especially when they undergo a demanding transitional phase, like early motherhood.

Strengths and Limitations

A strength of the current literature review is the equal partition of studies into cross-sectional and longitudinal designs, and the distribution of studies treating the pregnancy, the postnatal phase, or both. This enabled a valid comparison between the two episodes, as well as the two study designs. Further, even though the research field of positive psychology is less expanded than the field of pathology, all the literature included in this review was peer-reviewed and cited by multiple other researchers. Moreover, with a total sample of almost 73,500 women and a median sample size of 261 for each study, the population is well represented in this review, which contributes to the moderate reliability and validity of the results.

Apart from the strengths, the findings of this study must be seen considering some limitations. A huge limitation is the variety of findings although from very few studies, leading to results that were often imprecise, difficult to compare with each other and thus, hard to interpret. Moreover, the present review may be inhibited by publication bias, as literature on the topic seemed rarely published and the review missed data. Potentially relevant literature appeared only after the determination of the samples (e.g., the study of Myrskylä & Margolis, 2014), which may be an indicator of errors during the search or data charting process. A possible reason for this and further limitation may be the conduction of this review by one researcher only, which limited the time and amount of screening and

enhanced the risk of several biases, like, for instance, selection bias. Furthermore, the exclusion criteria of papers being published in 2000 or later was an inconsiderately chosen threshold, which may have caused the preclusion of additional potentially interesting findings. In addition, most of the results do not allow for a conclusion about causality, as they measure relationships and correlations.

A further notable limitation is that the studies included in this research differed in their use of measurements of (mental) well-being. For instance, overall mental well-being was measured by various measurements: While most of the studies used the “Mental Health Inventory”, Johnstone and Mulherin (2019) made use of the Mental Health Continuum Short Form “MHC-SF” of Keyes (2002), and Monteiro et al. (2021) utilized the “Flourishing Scale” of Diener et al. (2010). Due to the inhomogeneous utilization of measurements for the same outcome variable (overall well-being), it cannot be assured whether the results of the different studies were comparable to each other, thus, leading to confusion and inhibiting epidemiology.

This limitation was demonstrated by Hone and colleagues (2014). They compared different measurements for flourishing with each other, and according to their cross-tabulation analysis, the *flourishing scale* and the *MHC-SF* resembled each other to a percentage of 77% and had a Spearman’s correlation of .52. Consequently, the results cannot ensure 100% reliability and a comparison between the results is only to a limited extent possible. On top of that, the studies measured different aspects of well-being, which possibly harmed the reliability and comparability of results even further.

Directions for Future Research

Most importantly, as women’s well-being during the pre- and postnatal period is only scarcely researched, one future direction could be to extend the research on this topic. To generate a greater understanding of the complexity and nature of a woman’s well-being

during these phases, future studies could be conducted longitudinally and follow a mixed-methods design, like the study of Delle Fave and colleagues (2013). The conduction of mixed-methods designs could offer insights into the reliability and validity of women's answers to questionnaires. For instance, in the sample of Aiken and Trussel (2017), some women who did not intend to become pregnant answered that they would be happy about a future pregnancy while the in-depth interviews revealed negative attitudes towards a future pregnancy. Thus, longitudinal mixed methods designs that begin with questionnaires and are followed by structured in-depth interviews relating to the questionnaires, could help to create assurance over quantitative findings and enlighten further insights about the definitions of well-being.

Because social support was mentioned the most frequently in the results at hand, and the literature also shows that the years after the postnatal period are affected by decreased relationship satisfaction (Keizer & Schenk, 2012; Noy et al., 2020), it is suggested to promote social support and relationship satisfaction in order to yield a positive influence on women's well-being. In agreement with Dyrdal and colleagues (2010), relationship satisfaction should not be underestimated, as it can have a great influence on the life satisfaction of pregnant women and mothers. An idea would be for health insurance companies and the government to offer provisions and financial aid for psychological counselling sessions for mothers together with their partners or near relatives during the transitional phases.

The current findings also gave insights into the peaks and bottoms of well-being. While mothers were found to experience a drop in well-being and relationship satisfaction during early childhood (Dyrdal et al., 2010; Keizer & Schenk, 2012; Noy et al., 2020), it would be interesting to detect the factors that prevent those drops or help to enhance their well-being again when the child(ren) grow(s). Therefore, further scientific research on potential factors that may promote mental well-being and flourishing in mothers of toddlers is

recommended.

As the studies at hand measured different personal factors, research on the influence of specific coping mechanisms or character strengths could be extended. Also, external factors, like the role of infant age, were only scarcely reported on. By the execution of longitudinal studies, it could be seen whether there are even more intriguing peaks and lows that give insights into external factors promoting mental well-being. In addition, the role of age could be further investigated. This review got unclear results on whether a younger or higher age was beneficial for mental well-being, but the trend nowadays goes towards a “postponement of childbearing” and the reasons behind it vary (Albert et al., 2022, p.14). Also, the conduction of qualitative studies could help to define and specify (further) potential predictors for mental well-being by means of interviewing women who regard the topic and know best what they need or wish.

Furthermore, in agreement with Hone et al. (2014), the investigation of a homogenous and international measurement for flourishing is suggested. This could be reached by means of a prototype analysis that incorporates all important aspects of mental well-being and respects the opinions of other notable researchers besides Keyes, e.g., Diener et al. (2010), Seligman et al. (2011), and Huppert and So (2013). The prototype testing should be carried out among large and heterogeneous samples that represent the population with all its variations in age, nationality, etcetera.

Conclusion

The current literature reviewed fifteen articles based on potential factors that enable high levels of mental well-being of women who undergo the transition into motherhood. Despite the fact that the transition into motherhood is a mentally and physically challenging life episode for the (expectant) mothers, the present results show that the majority of women in the present samples experienced high levels of well-being and numerous factors were

found to be related to this positive outcome. Hence, the present review initiates a first step towards the equilibration of the biased negative view towards the pre- and postnatal period and contributes to the understanding, that flourishing can be reached simultaneously and independent of mental or physical complaints. The results show that factors related to psychological and social well-being, such as social support and healthy coping styles or character traits, were the main ones studied and found to correlate with higher well-being. Factors that regard emotional well-being, e.g., positive or negative affectivity, were few. Instead, emotional well-being was predominantly used and understood as an outcome variable. To allow for future interpretations and conclusions about the overall well-being of women during the pre- and postnatal period, it is appealed to treat emotional well-being as one of the three elements of overall well-being. This may enable to research factors relating to emotional well-being and to complete the picture of what positively influences overall well-being instead of only a subdomain of it.

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