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A Longitudinal Study on Motherhood and Well-Being: Developmental and Clinical Implications

Un estudio longitudinal sobre maternidad y bienestar: Implicaciones evolutivas y clínicas

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Abstract

Pregnancy and puerperium are crucial periods at both the biological and psychological levels. The aim of this longitudinal study was to investigate women's perceived health and illness during pregnancy and puerperium through the assessment of hedonic and eudaimonic components of well-being, symptoms of peripartum depression, and their relationship. Nineteen women recruited at the Unit of Obstetrics and Gynecology of a university hospital in Northern Italy were enrolled and answered a set of questionnaires at two time points: 20-22 weeks of gestation and 6 months after childbirth. Results showed a substantial lack of correlation between the dimensions of mental illness and mental health. The analysis of the well- and ill-being components showed low levels of depression as well as good levels of mental health, especially concerning the eudaimonic components of well-being, both during and after pregnancy. Overall, findings attested to a general stability of well-being over pregnancy and puerperium.
Key words: positive psychology, hedonic and eudaimonic well-being, peripartum depression.

Resumen

El embarazo y el puerperio son periodos cruciales tanto a nivel biológico como psicológico. El objetivo de este estudio longitudinal fue investigar la percepción de las mujeres sobre su salud y enfermedad durante el embarazo y el puerperio mediante la evaluación de componentes hedónicos y eudaimónicos del bienestar, síntomas de depresión, y sus relaciones. Participaron 19 mujeres contactadas en la Unidad de Obstetricia y Ginecología de un hospital italiano, quienes respondieron a unos cuestionarios a las 20-22 semanas de la gestación y a los 6 meses tras el parto. Los resultados mostraron una sustancial falta de correlación entre dimensiones de salud y de enfermedad mental. El análisis del bienestar y malestar mostraron bajos niveles de depresión así como buenos niveles de salud mental, especialmente en los componentes eudaimónicos del bienestar, tanto durante como después del embarazo. Globalmente nuestros hallazgos indican una estabilidad general del bienestar en el embarazo y el puerperio.
*Palabras Clave***:** psicología positiva, bienestar hedónico y eudaimónico, depresión periparto.

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Introduction

Becoming a mother has been identified as one of the most important and challenging transitions in adulthood (Reilly, Entwisle & Doering, 1987; Taubman - Ben-Ari, Shlomo & Findler, 2011). Pregnancy and puerperium are crucial periods at both the biological and the psychological levels (Stern, Bruschweiler-Stern & Freeland, 1998). On the one hand, women undergo physiological changes preparing them for child delivery, birth, and subsequent care. On the other hand, they have to revise and integrate their social and family roles, in relation to their beliefs, social network and life events.

Research and intervention have mostly focused on the problems women experience in this process. The burden of motherhood, alone or in combination with low antenatal support and/or young age, may cause mothers to experience a range of negative feelings, including anxiety, sadness and anger (Graham, Lobel & DeLuca, 2002; Porter & Hsu, 2003; Thorp, Krause, Cukrowitz & Lynch, 2004). In particular, attention has been devoted to peripartum depression, a mood disorder characterized by recurring symptoms of loss of interest and pleasure, depressed mood, fatigue, changes in sleep and appetite, alteration in activity patterns, concentration difficulty, unnecessary guilty feelings, and death and suicidal thoughts (American Psychiatric Association, 2000). Depression can occur during pregnancy (antenatal depression; AND), after birth (postnatal depression; PND), or in both periods (Leigh & Milgrom, 2008), with estimated prevalence and incidence ranging between 5% and 25%. The serious consequences of physical and mental disorders occurring during and after pregnancy on the quality of life of women, newborns and families have been addressed in medical literature (Ramchandani, Stein, Evans, O'Connor, 2005) and in psychological research (Goodman & Brumley, 1990; Murray, Fiori-Cowley & Cooper, 1996), and they represent a policy concern for governments (Department of Health, 2004). For this reason, the most recent Italian national guidelines for health professionals (Anninverno, Bramante, Petrilli & Mencacci, 2011) emphasized the relevance of women-centered care, focused on individual needs and wishes.

Motherhood and Well-being: Research Evidence

The identification of the shortcomings, deficits, and disorders connected to motherhood has traditionally catalyzed the bulk of researchers' attention, overshadowing the multifaceted definition of health as a state of complete physical, mental and social well-being, and not merely absence of disease or infirmity (WHO, 1946). However, research on antenatal care has recently expanded its traditional aim of preventing, detecting and managing problems to broader goals, that include encouragement and support to families' healthy psychological adjustment to childbearing (Das, 1999).

This shift in focus is supported by the new positive psychology movement, which calls for the need to implement individual strengths and resources in interventions addressed to well-being promotion (Seligman & Csikszentmihalyi, 2000). Within positive psychology, two broad conceptualizations of well-being have been developed: The hedonic one gives prominence to the feelings of pleasure, comfort and enjoyment; the eudaimonic one deals with optimal functioning (Ryan & Deci, 2001). Hedonic or *subjective well-being* (SWB; Diener, 2009) is operationalized as the prevalence of positive emotions on negative ones, and life satisfaction. By contrast, a variety of constructs have been operationalized under the umbrella term of eudaimonic well-being, that overall refers to a process of growth in complexity, towards the achievement of a higher good, and the pursuit of meaningful goals (Delle Fave, Massimini & Bassi, 2011; Ryan & Deci, 2001).

In particular, Ryff and her colleagues (1989; Ryff & Singer, 2008) developed the multidimensional concept of *psychological well-being* (PWB), consisting of six dimensions: self-acceptance - acknowledging and accepting multiple aspects of self, including good and bad qualities; positive relations - having warm, satisfying and trusting relationships with others; autonomy - being self-determining and able to resist social pressures; environmental mastery - having a sense of competence and control in managing the environment; purpose in life - having goals and a sense of directedness in life; and personal growth - seeing oneself as developing, growing, expanding and open to new experiences.

Previous studies showed that, even though highly correlated, SWB and PWB can operate independently of each other (Gallagher, Lopez & Preacher 2009; Huta & Ryan, 2010; Linley, Maltby, Wood, Osborne & Hurling, 2009). For this reason, the joint investigation of hedonic and eudaimonic constructs and their mutual relations can foster the development of more exhaustive and integrated frameworks. To this purpose, Keyes (2002, 2005, 2007) has proposed a model centered on the concept of mental health as *flourishing*, a syndrome that includes "symptoms" of both hedonia and eudaimonia, whose opposite pole is not psychopathology but *languishing*, a condition of absence of mental health, characterized by stagnation, silent despair, and indifference.

According to this model, mental health and mental illness are only moderately and negatively correlated. They are not opposite ends of a single continuum, but lie on two separate continua and can have different effects on individuals' psychosocial functioning (e.g. emotional health, daily and work activities; Keyes, 2002) and on physical health (e.g. cardiovascular diseases and stomach problems; Keyes 2007). Hence, the combined analysis of mental health and mental illness is required for a thorough investigation of individuals' well-being.

So far, no comprehensive studies have investigated the multi-dimensional structure of well-being during the experience of motherhood. Research has either focused on women's well-being as absence of psycho-pathological disorders (Haga, Lynne, Slinning & Kraft, 2012; Webster, Nicholas, Velacott, Cridland & Fawcett, 2011; Zubaran & Foresti, 2011) or on single components of well-being, prominently privileging hedonic indicators (Hoffenaar, van Balen & Hermanns, 2010; Rollero & Tartaglia, 2009; Dyrdal, Roysamb, Bang Nes & Vitterso, 2011), except for few studies focusing on eudaimonic ones (Delle Fave & Massimini, 2004; Taubman – Ben-Ari et al., 2012).

These two lines of research have yielded different findings. The former has attested to the negative relation between perinatal depression and quality of life. The latter has reported controversial evidence. On the one hand, from the hedonic perspective high levels of life satisfaction were detected before and immediately after delivery, followed by a drop from 6 months to 3 years after childbirth, with slight variations across samples, in relation to national policy provisions for parents, perceived social support, and marital satisfaction levels (Belsky & Rovine, 1990; Dyrdal et al., 2011; Pavot & Diener 2008). Other studies detected differences in mothers' marital well-being according to the number of children: Women's happiness levels increased with the birth of the first child, and dropped after the birth of additional children (Kohler et al. 2005). On the other hand, from the eudaimonic perspective, the positive consequences of motherhood on personal growth and meaning making, in connection with the perception of high but life-relevant challenges, were recently highlighted in a cross-sectional study (Taubman – Ben-Ari et al., 2012). These findings are consistent with those derived from a longitudinal assessment of parents' daily experience (Delle Fave & Massimini, 2004), in which mothers reported to perceive higher and more complex challenges than fathers in adjusting to their daily childcare commitments, at the same time identifying in these challenges opportunities for optimal experiences and long-term goal pursuit.

Overall, this second line of research concerned with the measurement of well-being dimensions highlighted that expecting and having a baby is not irremediably associated with negative outcomes such as depression. It can be rather experienced as a positive, engaging and rewarding experience, especially when the eudaimonic components of well-being are taken into account. This evidence was supported through both single administration instruments and on-line experience sampling procedures (Nelson et al., 2012). In particular, the complementary findings obtained through the assessment of different well-being variables support the need for an integrated perspective – hedonic and eudaimonic - in the investigation of motherhood, which is the rationale of the current study.

Aims of the Study

From an integrated well-being perspective, we are currently conducting a large longitudinal project, collecting both qualitative and quantitative information on mothers' physical and mental health during pregnancy and puerperium. Participants are second-time mothers for which the addition of a family member often represents an increase in time and energy demands – as well as a consequent strain – and requires adjustment and reorganization in the entire family system (Gameiro, Moura-Ramos & Navarroi, 2009; Krieg, 2007; Le Masters, 1957).

Within this ongoing project, the present study focuses on some findings derived from the joint analysis of a) mental health, in its hedonic and eudaimonic components, and b) mental illness, evaluated in terms of risk of perinatal depression. Two basic questions guided our work: Do hedonic and eudaimonic indicators of well-being and distress vary to the same extent and with the same patterns during pregnancy and puerperium? Do measures of mental illness and mental health represent two different continua in our participants?

To tackle these questions, participants' well-being was monitored longitudinally during pregnancy and after childbirth. Mental illness was assessed through perinatal depression measures (Cox, Holden & Sagovsky, 1987), and mental health was evaluated through the assessment of its hedonic and eudaimonic components. To this purpose, and consistently with previous literature, measures of life satisfaction (Diener, 1984) and PWB (Ryff, 1989) were used. However, we also collected qualitative and quantitative domain-specific evaluations of meaningfulness and happiness (Delle Fave, Brdar, Freire, Vella-Brodrick & Wissing, 2011), as they could shed light on the importance associated by the participants with various areas of life - such as family,

work, health, leisure - and the related levels of happiness during pregnancy and puerperium. Finally, we included a measure of emotional regulation, operationalized as the ability to manage negative emotions and to express positive ones (Caprara, Di Giunta, Eisenberg, Gerbino, Pastorelli & Tramontano, 2008), as it can affect women's relations with their children and partners (Giurgescu, Penckofer, Maurer, & Bryant, 2006), and represents a vulnerability factor for depression (Brockmeyer, Holtforth, Pfeiffer, Friederich & Bents, 2012).

Method

Participants

Nineteen women were recruited at the Unit of Obstetrics and Gynecology of a university hospital in Northern Italy. Inclusion criteria were Italian citizenship, single and spontaneous pregnancy, and being a second-time mother. Exclusion criteria were fetal malformations or chromosomal aberration-related diseases, and past diagnosis of major depression.

Participants ranged in age between 24 and 40 years (M = 34.9, SD = 3.7). They were married (68.4%) or cohabiting with their partner (31.6%). All of them had a job, and the majority had a secondary school degree (47.4%) or a college degree (31.6%).

Measures

After reporting socio-demographic information, participants filled out a set of questionnaires measuring depressive symptoms, as well as well-being in its hedonic and eudaimonic dimensions.

Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden & Sagovsky,1987; Italian version: Benvenuti, Ferrara, Niccolai, Valorini & Cox, 1999) investigates the severity of depression symptoms. The scale is widely used as a screening tool for postpartum depression (PPD). However, recent studies have shown its validity in measuring prenatal depression as well (Murray & Carothers, 1990; O'Connor, Heron, Glover & the ALSPAC Study Team, 2002). According to Yonkers and colleagues (2009), EPDS is more adequate in measuring prenatal and postpartum depression than other questionnaires, such as the Beck Depression Inventory II (BDI-II; Beck, Ward, Mendelson, Mock & Erbaugh, 1961), because it provides a clearer distinction between the somatic and behavioral symptoms related to depression and those related to pregnancy (e.g. sleep deprivation, changes in appetite).

Participants were asked to think of their psychological condition over the past 7 days and to answer 10 self-report items on 4-point scales (e.g. "I have been able to laugh and see the funny side of things"; from 0 "not at all" to 3 "as much as I always could"). Cronbach alphas were .83 at pre-partum (T1) and .74 at post-partum (T2).

Eudaimonic and Hedonic Happiness Investigation (EHHI; Delle Fave, Brdar, et al., 2011) comprises open-ended questions exploring, among others, a) participants' definition of happiness; b) participants identification of the three most meaningful things in their lives; and c) the reason why these things are meaningful. Moreover, it includes two scales assessing the levels of happiness and meaningfulness perceived in life in general and in 10 specific domains: work, family, standard of living, interpersonal relationships, health, personal growth, leisure, spirituality/religion, society issues, community issues. Happiness scales range from 1 (extremely low) to 7 (extremely high), and meaningfulness scales from 1 (not meaningful at all) to 7 (extremely meaningful).

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin,1985; Italian version: Goldwurm, Baruffi & Colombo, 2004) asks respondents to report how much they agree (from 1 = strongly disagree to 7 = strongly agree) on 5 statements assessing participants' level of overall satisfaction with their lives (e.g. "The conditions of my life are excellent"). Alpha coefficients were .83 at T1 and .84 at T2.

Psychological Well-being Scales (PWBS) (Ryff, 1989; Italian version: Ruini, Ottolini, Rafanelli, Ryff & Fava, 2003) consists of 84 scaled items ranging from 1 (strongly disagree) to 6 (strongly agree). Each of the six dimensions of psychological well-being is investigated through 14 items: autonomy (e.g. "I have confidence in my opinions even if they are contrary to the general consensus"; T1 α = .80, T2 α = .82), environmental mastery (e.g. "I am quite good in managing the many responsibilities of my daily life"; T1 α = .69, T2 α = .51), personal growth (e.g. "I think it is important to have new experiences that challenge how you think about yourself and the world"; T1 α = .70, T2 α = .73), positive relations (e.g. "Most people see me as loving and affectionate"; T1 α = .78, T2 α = .60), purpose in life (e.g. "Some people wander aimlessly through life, but I am not one of them"; T1 α = .82, T2 α = .73) and self-acceptance (e.g. "I like most aspects of my personality"; T1 α = .84, T2 α = .77). Some reliability coefficients were rather low but consistent with previous studies (Ryff & Keyes, 1995; Van Dierendonck, 2004).

Regulatory Emotional Self-Efficacy Scale (RESE; Caprara et al., 2008; Italian version: Caprara & Gerbino, 2001) measures individuals' perceived abilities in regulating their emotions with 16 items on Likert scales ranging from 1 (not at all able) to 5 (fully able). In particular, 4 items assess self-efficacy beliefs in expressing positive emotions (e.g. "How well can you express joy when good things happen to you?"; T1 α = .88, T2 α = .87), and 12 items evaluate the ability to manage negative emotions (e.g. "How well can you avoid flying off the handle when you get angry?"; T1 α = .83, T2 α = .87).

Procedure

The study was approved by the local hospital's ethics committee. Participants were recruited after the morphologic sonography that pregnant women routinely undergo at the 20th-22nd week of pregnancy. The study was presented as an investigation on the psychological conditions during pregnancy and puerperium. Women were invited to volunteer in the study. In case of acceptance, they signed an informed consent form, in line with the ethical principles of scientific research and national legislation on privacy.

Participants completed the set of questionnaires described in the measure section at two time points: one week after morphologic sonography (T1) and 6 months after delivery (T2). The mid pregnancy phase was identified as the starting point of the study in order to avoid risks for spontaneous miscarriage (most frequent in the first trimester), to exclude major fetal pathologies (usually detected through the routine morphologic ultrasound sonography) and based on the higher prevalence of antenatal depression (AND) during the second trimester of pregnancy (12.8%; Bennet, Einarson, Taddio, Koren & Einarson, 2004). The postpartum assessment was conducted in the period associated with the highest incidence of PPD (4-6 months after childbirth, Bennet et al., 2004), during which women are most likely to experience high levels of stress and low or irritable mood. These feelings can be at least partially related to the interruption of exclusive breastfeeding and the end of the maternity leave. Pregnant women in Italy are allowed to leave work between 8 and 4 weeks before the expected birth date and are entitled to a postnatal maternity leave of 12 weeks (if they left work at the end of the 7th month of pregnancy) or16 weeks (if they stopped working at the end of the 8th month of pregnancy). In this crucial period, women face the challenging goal of integrating an additional child within the daily routine and family system.

Data Analysis

Aggregated scores for satisfaction with life, the six dimensions of PWB, expression of positive emotions and management of negative emotions were calculated for each participant, by averaging corresponding items at T1 and T2 separately. Depression scores as measured with EPDS were summed together for each time point. The total EPDS score ranges between 0 and 30. As suggested in recent studies (Giardinelli et al., 2011; Chaudron & Nirodi, 2010), we adopted a *cut-off* point of 10 in order to grant high sensitivity in the identification of both minor and major depression. As for the data obtained through the EHHI, levels of happiness and meaningfulness in each life domain were assessed at T1 and T2, separately. The qualitative answers to the open-ended questions were coded and grouped into broad categories corresponding to the life domains explored in the scales; a further classification in sub-categories identifying hedonic and eudaimonic components of the answer content was performed on the basis of previous studies conducted with the same instrument in international samples of adult participants (Delle Fave, Brdar, Wissing, Vella-Brodrick, and Freire, in press).

Descriptive statistics - means and standard deviations - were calculated for all the quantitative variables at T1 and T2. Paired *t*-test analyses were performed to compare scores between T1 and T2. Pearson correlations of depression with eudaimonic and hedonic well-being measures were run in order to test the assumption of moderate or negative association between mental health and mental illness. As concerns the qualitative findings, the frequency distribution of the categories and subcategories at T1 and T2 was analyzed, and McNemar test was used to detect differences in the number of participants referring to the prominent life domains in their description of happiness, meaningful things, and motives underlying them.

Results

Quantitative Findings

Table 1 illustrates mean values and standard deviations of all well- and ill-being dimensions at T1 and T2.

Both during pregnancy and after childbirth, women generally reported good mental health, as well as depression scores substantially below the cut-off value of 10. In particular, their scores for satisfaction with life and the six

Table 1. *Mean values of mental illness and mental health variables before and after childbirth*

Variables	Pre partum (N = 19)[a]		Post partum (N = 19)[a]	
	M	*SD*	*M*	*SD*
Depression (0-30)[b]	7.21	5.31	5.74	3.60
Satisfaction with life (1-7)[b]	5.24	0.91	5.09	1.08
Psychological well-being (1-6)[b]				
Autonomy	4.74	0.67	4.57	0.81
Environmental mastery	4.82	0.59	4.57	0.56
Personal growth	4.92	0.53	4.68	0.60
Positive relations	4.84	0.67	4.93	0.56
Purpose in life	4.89	0.71	4.86	0.66
Self-acceptance	4.86	0.73	4.67	0.69
Levels of Meaningfulness (1-7)[b]				
Work	5.33	1.53	5.37	1.67
Family	7.00	0.00	7.00	0.00
Standard of living	5.28	1.04	5.47	1.07
Interpersonal relations	5.22	1.36	5.26	1.19
Health	6.72	0.65	6.74	0.56
Personal growth	5.72	1.41	5.63	1.07
Leisure	4.11	1.24	4.32	1.29
Spirituality	4.39	1.60	4.74	1.73
Community issues	3.83	1.38	3.95	1.61
Society issues	3.89	1.29	3.89	1.56
Life in general	6.39	0.59	6.11	0.88
Levels of Happiness (1-7)[b]				
Work	4.37	1.34	4.44	1.46
Family	6.58	0.61	6.58	0.61
Standard of living	5.06	1.00	4.67	1.41
Interpersonal relations	5.32	1.11	4.58	1.12
Health	6.11	0.81	5.79	1.32
Personal growth	5.53	0.90	5.37	1.21
Leisure	3.95	1.22	2.79	1.27
Spirituality	4.29	1.53	3.83	1.62
Community issues	3.53	1.23	2.94	1.39
Society issues	3.41	1.54	3.07	1.21
Life in general	5.79	0.85	5.26	0.99
Emotional Regulation (1-5)[b]				
Expression of positive emotions	3.97	0.67	3.34	0.50
Management of negative emotions	3.26	0.56	3.20	0.58

Note. [a] N = participants. Prenatal evaluation was performed at 20-22 weeks of pregnancy; Postpartum evaluation was performed 6 months after childbirth. [b] The minimum and maximum scale values are reported within parentheses.

dimensions of psychological well-being were in line with those obtained in national samples of women in the same age range (Delle Fave, Brdar et al., 2011; Goldwurm et al., 2004; Ruini et al., 2003). Comparisons between T1 and T2 highlighted significantly lower scores of environmental mastery ($t(18) = 2.75$, $p < .013$) and personal growth ($t(18) = 2.53$, $p < .021$) after childbirth.

Concerning emotional regulation, compared to national samples (Caprara, Caprara & Steca, 2003), participants reported similar scores in expressing positive emotions, and a trend towards better management of negative emotions. No difference emerged between T1 and T2 assessments.

Overall, women's levels of meaningfulness and happiness levels across life domains were also consistent with findings obtained in a national adult sample (Delle Fave, Brdar et al., in press). In addition, these findings provided detailed information on the participants' perceived priorities and areas of resource investment. Family clearly emerged as the major focus in their lives, representing the most meaningful domain as well as the prominent source of happiness, with no significant differences detected between T1 and T2. Health ranked second as both meaningful and happiness related domain at both T1 and T2. Personal growth, standard of living, work and relations followed in the ratings of meaningfulness, while society and community issues, spirituality and leisure were perceived as marginally meaningful at both T1 and T2, confirming previous international findings (Delle Fave et al., 2012). The same ranking pattern was observed in the levels of domain-related happiness at both assessment time points. A comparative analysis highlighted lower levels of happiness with interpersonal relations ($t(18) = 2.80$, $p < .012$) and with leisure ($t(18) = 3.14$, $p<.006$) after childbirth.

No significant correlations were detected between depression and hedonic and eudaimonic well-being dimensions at T1. On the contrary, at T2 depression scores were significantly and negatively correlated with environmental mastery ($r = -.46$, $p <.05$) and management of negative emotions ($r = -.58$, $p <.01$). In particular, women reporting higher levels of depression perceived lower mastery in dealing with their daily environment and lower self-efficacy in managing negative emotions.

Qualitative Findings

The results obtained from the analysis of the qualitative answers provided by 17 participants (2 did not complete the qualitative questions) through the EHHI shed further light on their perceived well-being.

Table 2. *Frequency distribution of the definitions of happiness before and after childbirth*

Domains	Pre partum		Post Partum	
	N	%	N	%
Psychological definitions	24	46.15	17	33.33
Family	14	26.92	21	41.18
Interpersonal Relations	5	9.62	6	11.76
Life in general	4	7.69	3	5.88
Health	3	5.77	1	1.96
Work	1	1.92	1	1.96
Leisure	1	1.92	2	3.92
Standard of living	0	-	0	-
Spirituality/religion	0	-	0	-
Community/society	0	-	0	-

*Definitions of happiness***.** As shown in Table 2, when participants were asked to report their own definition of happiness three major domains emerged, both before and after delivery: the psychological one (happiness described as an inner condition) and the family context.

Looking more closely at the answer content, before delivery the psychological definitions of happiness were equally distributed between eudaimonic aspects and hedonic ones, with 12 answers each. The former prominently referred to inner harmony and balance (58.3% of the answers), personal growth, purpose, mastery, and life value/meaning. The latter referred to positive emotions and satisfaction/achievement (6 answers for each of the two dimensions). After delivery, the eudaimonic aspects were prominent (76.5% of the answers, mostly comprising inner harmony and balance - 47.1% - as well as optimism and meaning), while the hedonic ones accounted for 4 answers.

As concerns answers referring to the family context, both before and after delivery participants prominently described the experience of sharing (daily life, free time, good and bad moments, accounting for 57.1% and 52.4% of the answers at T1 and T2, respectively). The other descriptions within this domain referred to the intrinsic meaning of having a family, the well-being of family members, and the personal gratifications derived from one's own family.

*Most meaningful things***.** In the EHHI participants were asked to report the three most meaningful things in their lives, and why they were meaningful. Table 3 shows the answer distribution across domains.

Family largely predominated, followed by work, while other domains were only marginally represented. A deeper analysis of the answer distribution across the subcategories included in the family domain highlighted that the vast

Table 3. *Frequency distribution of the most meaningful things before and after childbirth*

Domains	Pre partum		Post Partum	
	N	%	N	%
Family	28	59.57	31	65.96
Work	10	21.28	9	19.15
Interpersonal relations	3	6.38	1	2.13
Health	2	4.26	4	8.51
Standard of living	2	4.26	1	2.13
Spirituality/religion	1	2.13	0	-
Personal life	1	2.13	0	-
Life in general	4	7.69	3	5.88
Leisure	0	-	0	-
Community/society	0	-	0	-

majority of the answers before delivery (71.4%) referred to family as an intrinsically valuable/meaningful domain. After childbirth, the intrinsic role of family as a source of meaning was still prominent (48.4%), followed by sharing experiences (22.6%) and by the well-being of family members (19.3%). Within the domain of work, at both T1 and T2 participants generally referred to having a job as a meaningful thing per se.

*Motives underlying the most meaningful things***.** When asked about the motives underlying the identification of these three specific things as prominently meaningful, participants provided articulated answers, that are summarized in Figure 1. Over half of these answers, both before and after childbirth, referred to psychological motives (categorized as "personal life"), followed by family, accounting for 28.8% of the answers provided at T1 and 21.3% of those at T2. The other domains were only marginally represented.

A more detailed description of the answers included in "personal life" is provided in Table 4. The prominent motives emphasized by the participants at both assessments were value/meaning, personal growth, support, and self-actualization, all of them representing eudaimonic components of well-being.

More specifically, the subcategory "value/meaning" comprised answers such as "It gives meaning to life"; "Without it nothing has meaning"; "To make life worth living"; "Point of reference in life; without it everybody is lost". The subcategory "support" referred to the perception of the meaningful things as a "safe harbour", a "help in facing difficulties" or a "refuge to release daily emotions". Personal growth included "opportunity to learn", "to become a better person", "to broaden one's perspective". Self-actualization comprised answers such as "it allows me to express my potentials", "it is part of my identity as a person". Overall, the answers referring to hedonic well-being were very few before delivery (positive emotions, satisfaction and no negative feelings altogether accounted for 12% of the total) and were completely absent after childbirth.

Finally, a comparison was performed through McNemar's test in order to evaluate whether the participants' pattern of answers concerning definitions of happiness, meaningful things and motives underlying them had significantly changed within each of the prominent life domains after childbirth. Only one significant difference was detected: The number

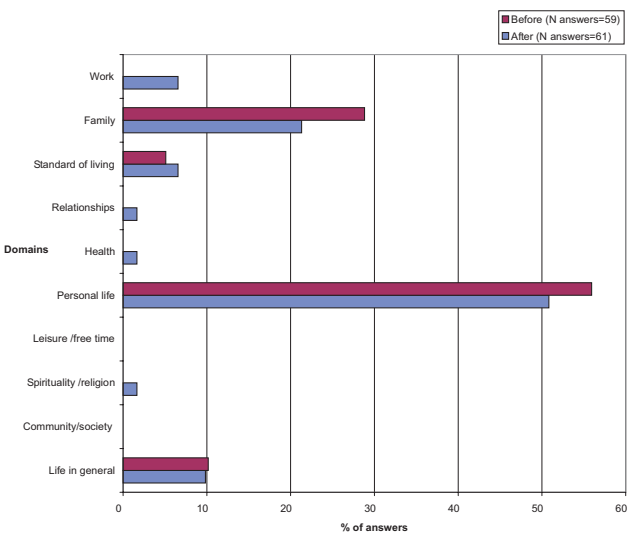

Figure 1. Motives underlying the most meaningful things before and after childbirth.

Table 4. *Frequency distribution of the motives underlying meaningful things within the category "personal life" before and after childbirth*

	Pre partum		Post partum	
	N	%	N	%
Value/meaning	6	18.18	12	38.71
Support	6	18.18	5	16.13
Personal growth	6	18.18	4	12.90
Self actualization	5	15.15	6	19.35
Harmony/balance	4	12.12	3	9.68
Purpose	1	3.03	1	3.23
Awareness	1	3.03	0	0.00
Satisfaction	2	6.06	0	0.00
Positive emotions	1	3.03	0	0.00
No negative feelings	1	3.03	0	0.00
Total answers	33	100.00	31	100.00

of participants providing definitions of happiness referred to inner psychological conditions reduced to half, from 14 to 7 (χ^2=7.0, p<.015). On the opposite, all the participants indicated family as a meaningful thing at both assessment time points.

Discussion

The present study aimed at analyzing women's perceived health and illness in crucial periods of their lives, namely pregnancy and puerperium. The novelty in our approach was focusing on the joint analysis of mental health, in both its hedonic and eudaimonic components, and mental illness, evaluated in terms of risk of perinatal depression.

Mental Health and Motherhood: Stability and Change

The descriptive analyses of the well- and ill-being indicators showed that women overall reported low levels of depression and good mental health both during and after pregnancy. Their scores for satisfaction with life, the six dimensions of psychological well-being, self-efficacy in expressing positive emotions, and happiness and meaningfulness levels in the different life domains were in line with findings derived from other adult samples at the national level.

Participants showed a tendency to a better management of negative emotions, compared to national samples (Caprara et al., 2003). This finding, though exploratory in nature, suggests the importance of this aspect in fostering mothers' resilience and well-being. In particular, as regulatory emotional self-efficacy beliefs contribute to efforts in modulating impulsive tendencies (Bandura, Caprara, Barbaranelli, Gerbino & Pastorelli, 2003), they are functional in promoting rewarding and enriching social ties and relations (Eisenberg, Fabes, Guthrie & Reiser, 2000; Fredrickson & Joiner, 2002), as well as empathy (Caprara, Steca, Gerbino, Paciello & Vecchio, 2006). They also facilitate adaptive coping (Folkman & Moskowitz, 2000), and protect from depression (Bandura et al., 2003).

The joint analysis of women's meaningfulness and happiness levels, together with the results obtained from the EHHI open-ended questions, highlighted the participants' deep and global investment in the project of building a family, identified as both a key source of meaning and happiness. Some quotations clearly exemplify this aspect: "Happiness is… kids, they give meaning to life"; "Absolute happiness is when we are all together in the same bed, and I listen to the children laugh"; "The most meaningful things in my life are the growth of my children, succeeding in maintaining a good relationship with my family of origin, and the relationship with my husband".

Other findings further highlighted women's focus on family. In particular, both before and after pregnancy, when participants mentioned health, standard of living, and work as meaningful things they reported family unity, prosperity and well-being and as the major underlying motives. However, participants also highlighted the substantial impact of family and children on their worldview and self definition (Schlegel & Hicks, 2011). In particular, when reporting family as a meaningful thing, they described as underlying motives the positive impact of family on their own identity development, hierarchy of values, and meaning in life (Steger, Oishi & Kashdan, 2009).

Participants also stressed the role of family as a safe harbour and a source of support, at both the psychological and practical levels. Overall, relations were shown to be important sources of both positive and negative experiences among human beings (Delle Fave, Massimini, & Bassi, 2011). This is particularly true of mothers who derive great benefit from the practical and psychological support of their partner and of other family members in coping with the newborn's requirements (Dyrdal et al., 2011; Taubman Ben-Ari et al., 2012). A dysfunctional marital relation and the lack of support from partner represent largely acknowledged risk factors for developing AND and PPD (Hübner-Liebermann, Hausner & Wittmann, 2012). As concerns the participants in this study, the protective effect of positive relationships with partner, parents, and family in general clearly emerges from their qualitative and quantitative evaluations and descriptions of their own family. Warm, satisfying and trusting relationships in the months following childbirth prevent the states of malaise, depression, anxiety, feelings of emptiness and failure which may derive from the especially symbiotic relationship with the child. In a nutshell, mothers seem to affirm: "I can take care of my child, as long as someone can take care of myself, even if not explicitly required".

Overall, participants rated leisure activities, as well as the "outside world" – identified with society and community issues – as low in both meaningfulness and happiness levels. These domains were almost inexistent in the qualitative answers as well. The experience of motherhood – with the related challenges, changes in social roles, and parental responsibilities – seems to force women to narrow down their horizons to the psychological and physical space of the family. This apparent disengagement from society and restriction in investment targets has been also detected in

large international samples of adults aged 30 to 50 (Delle Fave, et al., in press).

As concerns leisure, this finding underlines the focus on long-term eudaimonic goals to the detriment of short-term hedonic ones, as expected in the participants' specific life stage, and consistent with other studies (Keyes, 2007). Concerning community and society, these findings call into play the role of family as the unity of society, and the relevance of families' well-being to social flourishing and empowerment. The promotion of family well-being however requires - among other things - the parents' daily systematic investment on their children, with little time left for involvement in larger community activities, especially within the context of urban life and nuclear family organization. Moreover, as highlighted above, participants reported eudaimonic motives as reasons for their investment on family, referring to value-laden dimensions such as life meaning and developmental tasks that promote the experience of a "full life" overcoming the boundaries of the private self (Peterson, Park & Seligman, 2005).

The longitudinal comparison of women's mental health and mental illness allowed us to detect the effect of the newborn on the family system and, specifically, on the adjustment potentials of mothers over time. In line with previous research (Hoffenaar et al., 2010), no differences were identified between pre- and postnatal reports of depression. The significantly lower levels of environmental mastery and personal growth reported after delivery are consistent with the new challenges derived from the process of incorporating a new member into a preexisting system, as well as from the increased demands on time and energy related to the addition of each child (Delle Fave & Massimini, 2004; Krieg, 2007; Taubman – Ben-Ari et al., 2012). The physical and psychological burden of caring for more children, forcefully "stealing" time and attention from the first child to the advantage of the second one, and adjusting daily schedules and rhythms to the new lifestyle was clearly voiced by the participants during questionnaire administration. The consequent reduction in time devoted to oneself as an individual, and to the cultivation of personal interests (supported by the low relevance of leisure and related happiness levels), can explain the post-partum drop in personal growth as measured by PWBS (referring to seeing oneself as expanding and being open to new experiences (Ryff & Singer, 2008). This finding apparently contrasts with the stable high levels of happiness and meaningfulness perceived in personal growth as measured by the EHHI scales. However, the analysis of the qualitative answers provided by the participants to the EHHI highlighted that personal growth prominently referred to commitment, engagement in complex challenges, overcoming personal weaknesses, becoming a better person, rather than the dimension of openness to the world and to new experiences investigated through the PWBS. The significantly lower levels of happiness with leisure and with interpersonal relations (referring to friends and acquaintances outside the family) can be explained through the previously discussed selective focus on family requirements. In particular, the disinvestment from extra-family relationships can be related to the deep investment of the mothers in the relationship with the newborn, and to their additional attention to the needs the other children and of the family as a whole.

Mental Health and Mental Illness: Two Different Continua

The importance of analyzing mental health not as the mere absence of pathological symptoms, but as a multifaceted independent construct clearly emerged in the correlational analysis between depression and hedonic and eudaimonic well-being indicators. In line with previous studies (Keyes 2002, 2005), few if any significant correlations were identified. While at T1 measures did not correlate, at T2 significant negative associations were obtained for depression with environmental mastery and management of negative emotions. These findings point to a joint trend of mothers' growing susceptibility or reactivity to negative emotional events with reduced ability to master environmental challenges after childbirth.

The preponderant lack of correlations between mental illness and mental health underscores the need to analyze both positive and negative aspects of well-being, as these can provide complementary information that mere emphasis on presence - or absence - of perinatal depression cannot offer (Hoffenaar et al., 2010).

Limitations and Suggestions for Intervention

Our study presents two major limitations: the small sample size, and the preliminary nature of the results, as part of a work in progress. Moreover, since reliabilities of PWBS variables are usually low or moderate in most studies, a larger sample size would allow for a better evaluation of the results. Nevertheless, in our opinion, this study provides evidence of specific aspects of maternal adjustment to childbirth that are still overlooked in the literature on parenthood.

Pregnancy and puerperium appear to be linked to both positive and negative aspects (that are not necessarily

related to depressive symptoms), making it necessary for clinicians and health professionals to identify possible areas of intervention, both on the negative and on the positive side of mental health assessment. Moreover, the evidence of the multidimensional structure of well-being, and of its substantial independence from ill-being can encourage health professionals to adopt a more articulated prevention approach, supporting and encouraging families' healthy psychological adjustment to childbearing, through the implementation of their individual strengths and resources.

In particular, our data suggest two possible lines of intervention. The first one derives form the evidence that the special relationship with the newborn, and with one's own children in general, is acknowledged by the mothers as the major source of hedonic and eudaimonic well-being in their lives, in spite of the drastic reduction of time available to them for personal leisure and interest cultivation. This topic has to be seriously taken into account, especially in post-industrial individualistic societies, in which the symbiotic and unique mother-child relationship is forcefully limited to the maternity leave period. Organizational resources, such as crèches and facilities for breast feeding mothers are often not available at workplaces. This enhances women's feelings of guilt and shame. More efforts at the international level should be put in the promotion of mother and child well-being, through policy provisions that clearly legitimate the key role of a healthy relationship with the baby for the promotion of family and society empowerment.

The second line of intervention derives from the empirical evidence of the role of partner, parents, and significant others as sources of support and protective factors against new mothers' mental illness. Training programs could be designed for new fathers and other family members, helping them develop awareness about mothers' need to be supported in a crucial life stage that requires a massive investment of energies in the dyadic relationship with the newborn.

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