

Parental experiences of subjective well-being in the context of infant sleep problems

Jacomien Muller*, Tharina Guse and Anathi Ntozini

**Department of Psychology, University of Pretoria, Pretoria, South Africa*

* Jacomien Muller, Department of Psychology, University of Pretoria, Lynnwood Road, Pretoria 0002, South Africa, jacomien.muller@up.ac.za

Abstract

Objective: This study explored parental experiences of subjective well-being in the context of infant sleep problems. **Background:** Although quantitative research has highlighted the deleterious impact of infant sleep problems for parental well-being broadly, little is known about subjective experiences of well-being specifically. **Method:** This retrospective qualitative study formed part of a larger multiphase project. Ten parents who approached a sleep consultancy for assistance with infant sleep problems participated in the study. Data was collected through in-depth interviews and results were analysed thematically. **Results:** Two key themes were identified: (1) the negative influences of insufficient sleep on parental subjective well-being, and (2) the indirect influence of infant sleep problems on parental subjective well-being. Participants highlighted the direct influence of insufficient sleep on their life satisfaction, affect and mood. Further, through its impact on infant well-being and behaviour, and the loss of free time, infant sleep problems indirectly negatively influenced parental subjective well-being. As a result, life satisfaction and affect was deleteriously influenced. **Conclusion:** Parental subjective well-being may be deleteriously influenced by infant sleep problems, both directly through insufficient sleep and indirectly through the impact of infant sleep problems.

Keywords: infant sleep problems; parents; subjective well-being; qualitative; life satisfaction

Introduction

Sleep is an essential component of an individual's ability to function effectively on a daily basis (Davidson, Rusak, Chambers & Corkum, 2019). Seven hours of good quality, appropriately timed and regular sleep, with the absence of sleep disturbances or disorders, is the recommended amount of sleep for adults (Watson et al., 2015). On the other hand, infant sleep patterns are highly variable with frequent night awakenings characteristic of infant sleep (Paavonen et al., 2020). Because of these different infant and adult sleep patterns, parental sleep may be disturbed, resulting in both short- and long-term health consequences (Medic, Wille & Hemels, 2017), thus affecting well-being adversely.

Definitions of sleep problems are frequently based on subjective parental reports, and may be influenced by several factors, including cultural and parental expectations (Barry, 2021). While subjective, and often not in line with normative sleep data and biological measures of sleep quality (Barry, 2021; Paavonen et al., 2020), parental reports of infant sleep problems (ISP) reflect the lived experience of these parents and should thus not be discounted. Acknowledging that sleep problems are subjective and occurs within the intersection of socio-cultural influences, beliefs and expectations, the most common sleep problems reported by parents are difficulties with settling to sleep and frequent night-time waking (Paavonen et al., 2020).

Within the context of parentally defined ISP, parental well-being is influenced in several ways, as reflected in studies focusing on affect, mood and stress (Hiscock & Fisher, 2015; Okun, Mancuso, Hobel, Schetter & Coussons-Read, 2018). ISP have been linked to an adverse impact on affect. Specifically, mothers experience a higher incidence of irritability (Hiscock & Fisher, 2015) and anxiety (Okun et al., 2018) as a result of fragmented sleep. Additionally, increased negative affect and decreased

positive affect is associated with depression (Dejonckheere et al., 2018). In line with this, studies have indicated that less than six hours of parental sleep in a 24-hour period, fatigue, and frequent night-wakings of three or more times per night, are associated with the onset of depressive symptoms in parents (Pemberton & Tyszkiewicz, 2016). Accordingly, ISP are associated with higher maternal depression scores (Hall, Moynihan, Bhagat & Wooldridge, 2017). Although less well documented, fathers of infants with sleep problems can also experience high levels of depression (Field, 2018). Finally, ISP has been linked to an adverse impact on parental stress levels (Covington, Rogers, Armstrong, Storr & Black, 2017) and compromised functional efficiency (Hiscock & Fisher, 2015). It therefore appears that, although other factors might exist, insufficient parental sleep caused by ISP may be one factor associated with lack of well-being.

Despite the inherently subjective nature of parentally defined ISP, the influence of such sleep problems on parental subjective well-being (SWB) is understudied. SWB may be explained as the extent to which individuals perceive that their life is going well, as determined from the perspective of that individual (Diener, Lucas & Oishi, 2018). It includes broad appraisals related to life satisfaction as well as specific feelings linked to an individual's circumstances or life events (Diener, Pressman, Hunder & Delgadillo-Chase, 2017). According to Diener's (1984) tripartite model, SWB is comprised of three components: an evaluation of being satisfied with one's life as a whole, the presence of positive affect, and low negative affect. While existing studies considering the influence of ISP on parental affect have reported an increase in negative affect, to the best of our knowledge, no prior studies have considered the influence of ISP on positive affect and life satisfaction of parents. SWB has therefore only partially been explored in previous research. Parental reports suggest that up to 45% of children

under the age of one experience ISP (Price, Wake, Ukoumunne & Hiscock, 2012), thus potentially deleteriously influencing parental well-being. As well-being is central to individual as well as family functioning (Nomaguchi & Milkie, 2020), understanding parental experiences of SWB within the context of ISP may therefore allow for timely and relevant interventions and treatment programs to improve SWB. This study therefore aimed to explore the influence of ISP on the SWB of parents.

For the purposes of this study, parental well-being is viewed from a subjective perspective, thus focusing on life satisfaction and affect.

Method

Research approach

This retrospective qualitative study formed part of a larger mixed-method, multiphase study aimed at exploring the subjective well-being of parents implementing graduated extinction and extinction with parental presence sleep interventions to improve child sleep. The current study reports on the qualitative phase of the larger project.

Participants and procedure

The participants were eight females and two males whose ages ranged between 30 and 43 years. The majority (9) were White, while one identified as Coloured (mixed ancestry). The participants' children's ages ranged between three to 12 months. Table 1 provides demographic information and pseudonyms.

Table 1. Description of interview participants

Pseudonym	Gender	Participant age	Age of child (months)
P1	Female	34	6
P2	Female	30	8
P3	Female	32	8
P4	Female	36	3
P5	Female	41	3
P6	Female	36	5
P7	Female	31	12
P8	Female	31	8
P9	Male	43	5
P10	Male	31	12

The participants were recruited from parents who voluntarily approached a sleep consultancy operating in Southern Africa. The children had to be over the age of three months and participants were excluded if their children presented with medical conditions that cause sleep problems, and if their children presented with neurological conditions that have an impact on sleep.

A combination of nested and snowball sampling was employed. Nested sampling involves identifying participants for semi-structured interviews from survey participants (Schatz, 2012). Utilising this sampling procedure eight mothers consented to be interviewed. By employing snowball sampling (Handcock & Gile, 2011) the mothers who had participated in Phase III of the larger study were asked to identify fathers that might be willing to be interviewed. Two husbands consented to be interviewed, one whose wife participated only in the quantitative phase, and one whose wife was also interviewed. The first author conducted nine interviews telephonically and one virtually.

Interviews were conducted at a time suitable for each participant and lasted between 20 and 60 minutes. All interviews were conducted in English and audio recorded with consent. Questions were open-ended and referred to participants' general experience regarding their well-being in the context of the broader study on sleep interventions (see Appendix A). Interviews were transcribed verbatim.

Ethical considerations

The Research Ethics Committee of the Faculty of Humanities at the University of Pretoria approved the study (HUM051/0619). Clients who approached the sleep consultancy voluntarily were fully informed of the nature of the research through a participant information letter in which the purpose and aims of the study were explained. It was also noted that participants could withdraw from the study at any time with no consequences, and that the services offered by the sleep consultancy would not be affected by participation, refusal to participate, or withdrawal from participation. Informed consent was obtained before interviews commenced.

Data analysis

We followed an inductive and reflexive thematic analysis approach in which themes were linked to the data without attempting to enforce a pre-existing coding frame or analytic preconceptions (Braun & Clarke, 2006). The analysis was conducted in accordance with the six phases outlined by Braun and Clarke (2006; 2019).

The lead author conducted initial coding of the entire dataset, and to enhance the quality of the study subsets of interviews were coded separately by the co-authors as well as an external coder proficient in qualitative data analysis. There was no disagreement among authors on codes. We then discussed the themes, which were further refined and agreed upon by all parties for inclusion in the final thematic framework. Codes were linked to initial themes; for example, the code ‘negative emotions towards partner’ was linked to the subtheme *Increase in negative emotions*, which falls under the theme *Insufficient sleep has a direct negative influence on parental well-being*. In terms of reflexivity, all authors as well as the external coder were women and mothers, thus ethical mindfulness of how personal experiences might influence findings was maintained during data collection as well as data analysis.

Furthermore, to ensure a rich and nuanced perspective of the phenomenon and to add to the credibility of the findings, instances where participants' experiences differed from or did not support the prevailing perception of a theme was included and discussed.

Upon completion of the analysis, it became evident that the themes and subthemes could be classified into three separate timeframes. The participants reflected on their experiences of well-being in the context of ISP, and during and after the sleep intervention. For purposes of the present study responses relating to well-being in the context of ISP were analysed again to obtain a richer understanding, and are discussed here.

Results

Following analysis, two broad themes were identified, with various subthemes: (1) *the direct negative influence of insufficient sleep on parental subjective well-being*, and (2) *the indirect influence of ISP on parental subjective well-being*.

Theme one: Insufficient sleep has a direct negative influence on parental well-being

Theme one consisted of three subthemes: participants noted that they experienced low life satisfaction, negative emotions, and low mood as a direct consequence of poor sleep.

Subtheme 1.1: Decreased life satisfaction

All but one of the participants reflected on the decrease in life satisfaction associated with ISP. This was often discussed within the context of poor sleep, with the experience termed 'absolute hell' [P1] and 'one of the worst things in the world' [P9]. However, participants often felt that the combination of fatigue together with the broader effects

of their daily struggle to cope with ISP decreased their life satisfaction. One participant observed that she was 'in a semi-state of living' [P8], while two participants considered it a very 'dark' [P5, P10] time. Life satisfaction appeared to be strongly related to child sleep: 'when you have a child that is not sleeping through you feel as if you have a cup that is consistently empty' [P10]. Only one parent viewed it differently: 'I think you know when you have a child you are going to be sleep deprived for the first year, so you kind of prepare yourself' [P6].

Subtheme 1.2: Increase in negative emotions

It appears that poor sleep had a substantial negative effect on emotions. The participants referred to increased negative emotions overall but also regarding sleep expectations: 'I used to dread bedtime because I just knew that now I'm going to be up for the whole night and I would pray she wouldn't wake up for two hours randomly' [P7]. In one case a participant had a negative emotional experience because her partner directed his anger towards their infant: 'I walked into the room and his whole manner and tone was very aggressive towards her because she wasn't sleeping... and in that second I snapped and completely lost it' [P3]. General negative emotions included irritation: 'I used to get so irritated so quickly' [P3], anger: 'I mean exhaustion just makes me angry' [P1], anxiety: 'the lack of sleep I think made me feel, I think a lot more anxiety' [P4] and frustration: 'you know starting the day tired leads to you just maybe being a little bit more frustrated' [P9]. Only one participant mentioned how ISP influenced her experience of positive emotions, indicating that she felt "very little sort of enjoyment" [P8].

Subtheme 1.3: Low mood

Lack of sleep additionally appeared to have had a negative influence on some of the participants' mood, with the prevalence of negative affect related to symptoms of

depression. They highlighted general feelings associated with depression, such as guilt: 'when my husband got home in the evenings I would say, "just take this child"...I feel guilty about that' [P2], emotional numbing: 'I was like flatlined' [P8], and irritability: 'I was like a bomb just waiting to explode. My irritation levels were sky high' [P1]. One participant specifically felt 'Quite depressed, always sad.' [P3], while for another it was less specified: 'the lack of sleep starts to affect my mood negatively' [P10]. The participants attributed their low mood to insufficient sleep and the resulting exhaustion.

Theme two: ISP also has an indirect influence on parental well-being

There were two subthemes identified within this theme: child well-being and behaviour, and a lack of free time affecting experiences of well-being.

Subtheme 2.1: ISP negatively influence child well-being and behaviour

The lack of sleep caused by ISP influenced many of the children's well-being and behaviour deleteriously. Several parents described emotional behaviour such as frequent and consistent crying, as well as 'difficult' [P1] behaviour exhibited by their infants: 'if your kid is not sleeping then they're unhappy... a sleepy child who doesn't want to sleep is the worst' [P9]. The challenge posed by managing infant crying and behavioural problems, in turn, appeared to influence the participants' well-being, causing distress: 'I dreaded every day but more due to the fact that I dreaded the constant screaming' [P1].

Subtheme 2.2: Lack of free time decreases well-being

The inability to have free time had a negative influence on many participants' well-being. Some participants felt 'trapped' [P7, P8] since their children required their constant presence in the room or the bed in order to sleep. For others the lack of free

time related to daytime activities as well: ‘It felt like I had no time because I would be like holding her if she was sleeping and then, if she was awake I’d be feeding her, so it was like there was absolutely no time to do anything’ [P4]; ‘We would, you know just not cook, and not spend time together’ [P3]. Additionally, as participants in this study often assumed the role of primary caregiver, they described the unrelenting nature of caring for children with ISP. This resulted in increased negative emotions, with some participants experiencing ‘anxiety’ [P10] or feeling ‘overwhelmed’ [P8] and ‘frustrated’ [P4].

Discussion

The findings presented above reveal the negative influence that ISP may have on parental well-being, both directly through poor sleep and indirectly through experiences associated with ISP. Decreased facets of well-being noted by participants included life satisfaction, emotions, and mood. Well-being was also influenced indirectly through the impact of ISP on child well-being and behaviour, and a lack of free time.

In this study, all but one of the parents reflected on the decline in their life satisfaction as a result of insufficient sleep. In the context of ISP, there appears to be a dearth of literature on life satisfaction of parents. However, based on the responses from the participants, it appears that ISP have a negative influence on parental life satisfaction. This is not surprising, given that poor sleep is detrimental to life satisfaction outside of the context of ISP (Blackwell et al., 2020; Zhi et al., 2016). While more research is needed, the findings of the present study suggest that ISP may decrease life satisfaction of parents directly.

The findings of the present study support quantitative literature regarding the incidence of negative affect in parents of children with sleep problems (Mihaila &

Hartley, 2018). Loss of sleep often leads to greater negative affect, specifically anger, irritability and anxiety (Hiscock & Fisher, 2015; Okun et al., 2018). One mother in this study mentioned negative emotions directed towards their child by her partner. Prior research has shown that parents often experience increased anger towards children with sleep problems (Cook et al., 2017), possibly because of demands related to sleep (Sadeh, Tikotzky & Scher, 2010) and the resultant loss of free time (Qian, Yarnal & Almeida, 2013). This is concerning as infant crying (often associated with ISP) has been implicated as a potential risk factor for abusive head trauma (AHT) in infants (Kaya, Çelik & Efe, 2022). Therefore, parents dealing with ISP should be educated on the occurrence of infant crying and the risks associated with AHT. Cultural and age-appropriate interventions to improve infant sleep, ranging from positive bedtime routines and co-sleeping to behavioural sleep interventions, are further suggested.

Some participants in this study expressed negative affect related to uncertainty about sleep expectations. This is expected given that theories of uncertainty and affect have posited that being unable to predict an outcome is disconcerting and causes negative affect (Anderson, Carleton, Diefenback & Han, 2019). Parents dealing with ISP can often not predict how frequently their infants will wake, or whether or when they will fall asleep. This may increase negative affect, as evidenced by the dread expressed by two mothers in this study. Only one parent mentioned a decrease in positive emotions due to ISP, supporting previous research demonstrating that sleep disruption has a mitigating impact on positive affect (Saksvik-Lehouillier et al., 2020).

In line with the qualitative findings reported here, prior literature has established that mood, specifically depression, is severely affected by insufficient sleep (Pemberton & Tyszkiewicz, 2016; Schwarz et al., 2019), especially for parents of children with sleep problems (Hall et al., 2017). The risk for postnatal depression may therefore

increase for parents managing ISP. Increased negative affect is central to depressive symptoms (Dejonckheere et al., 2018). Several participants in this study discussed affective experiences associated with depression, including emotional numbing, sadness, irritability, crying and feelings of guilt. Parents managing ISP should therefore be educated on the risk and symptoms of depression, and health practitioners can potentially screen parents reporting ISP to encourage early detection and treatment.

With respect to the indirect influences of ISP on parental well-being, the insufficient sleep appeared to affect child well-being and behaviour, which, in turn, led to the participants experiencing a decline in their own well-being. Inadequate child sleep is associated with heightened emotional and mood problems in children (Reynaud, Vecchierini, Heude, Charles & Plancoulaine, 2018). The need to manage such difficulties conceivably puts strain on an already fatigued parent. In this regard, prior literature has confirmed that caring for children with emotional or behavioural problems increases parental strain (Nomaguchi & Milkie, 2020). Interventions to improve infant sleep is again recommended, and parents may additionally be encouraged to intermittently share childcare responsibilities with family members and friends in order to rest.

Finally, lack of free time associated with ISP seemed to decrease well-being for several participants. Parenting stress increases due to heightened demands and responsibilities and a decrease in leisure activities and quiet time (Nomaguchi & Milkie, 2020), where parenting stress has a deleterious effect on parental well-being (Sharda, Sutherby, Cavanaugh, Hughes & Woodward, 2019). Further, satisfaction with leisure decreases for parents after childbirth (Aassve, Luppi & Mencarini, 2021), while loss of leisure time is associated with increased negative affect (Qian et al., 2013). The findings of the present study are therefore expected. Aside from when they are asleep, infants

require constant care and attention. When infants present with sleep problems the requirements of care increases, thus resulting in less free time for caregivers. Since previous research has revealed an association between free time and increased positive affect, and decreased negative affect (Offer, 2016), educating parents on the importance of free time is recommended, and parents should be encouraged to seek childcare support where possible.

In conclusion, the findings of the present study suggest that ISP deleteriously influences the SWB of parents. Facets of well-being that were directly affected due to poor sleep include life satisfaction, negative affect, and mood. Additionally, ISP indirectly influenced parental SWB through its impact on their children's well-being and behaviour, and a loss of free time. As a result, affect and parenting stress were deleteriously influenced, thus indicating the absence of well-being as operationalised within the present study. This is problematic, as well-being influences individual and family functioning.

This exploratory study highlights the deleterious influence ISP may have on parental life satisfaction and affect and supports prior literature regarding its adverse effect on parental well-being more broadly. These findings could support the formulation of interventions for parents managing ISP.

A limitation of this study is the fairly homogenous sample in terms of gender, race, education, employment status, and nationality. This may stem from sleep interventions largely being utilised in Western populations, which limits the generalisability to other cultures. The problem engaging fathers is relatively common in studies on child sleep due to the gendered nature of child rearing and managing child sleep. Studies focusing specifically on fathers with a longer timeframe to collect data is therefore suggested. The heteronormativity of the sample further limits generalisability,

and studies in diverse samples are therefore recommended. Further, the retrospective nature of the study potentially influenced participants' ability to recall the exact nature of their experiences. Future qualitative studies with more varied samples can be conducted to elucidate whether SWB decreases in other populations. Additionally, developing and implementing interventions to improve infant sleep and parental SWB could be valuable.

Acknowledgements

The authors wish to express their gratitude to the parents who participated in this study.

Disclosure of interest

The authors report no conflict of interest

Funding

This work was supported by the National Research Foundation of South Africa under Grant MND190612446828.

ORCID

Jacomien Muller: <https://orcid.org/0000-0002-5683-1036>

Tharina Guse: <https://orcid.org/0000-0001-9541-0392>

Anathi Ntozini: <https://orcid.org/0000-0002-4471-7383>

References

Aassve, A., Luppi, F., & Mencarini, L. (2021). A first glance into the black box of life satisfaction surrounding childbearing. *Journal of Population Research*, 1-32. <https://doi.org/10.1007/s12546-021-09267-z>

Anderson, E. C., Carleton, R. N., Diefenbach, M., & Han, P. K. (2019). The relationship between uncertainty and affect. *Frontiers in Psychology*, 10, 2504. <https://doi.org/10.3389/fpsyg.2019.02504>

- Barry, E. S. (2021). What is ‘normal’ infant sleep? Why we still do not know. *Psychological reports, 124*(2), 651-692. <https://doi-org.uplib.idm.oclc.org/10.1177/0033294120909447>
- Blackwell, C. K., Hartstein, L. E., Elliott, A. J., Forrest, C. B., Ganiban, J., Hunt, K. J., Camargo, C. A., & LeBourgeois, M. K. (2020). Better sleep, better life? How sleep quality influences children’s life satisfaction. *Quality of Life Research, 29*(9), 2465-2474. <https://doi.org/10.1007/s11136-020-02491-9>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589-597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Cook, F., Giallo, R., Petrovic, Z., Coe, A., Seymour, M., Cann, W., & Hiscock, H. (2017). Depression and anger in fathers of unsettled infants: A community cohort study. *Journal of Paediatrics and Child Health, 53*(2), 131-135. <https://doi.org/10.1111/jpc.13311>
- Covington, L. B., Rogers, V. E., Armstrong, B., Storr, C. L., & Black, M. M. (2019). Toddler bedtime routines and associations with night-time sleep duration and maternal and household factors. *Journal of Clinical Sleep Medicine, 15*(6), 865-871. <https://doi.org/10.5664/jcsm.7838>
- Davidson, F., Rusak, B., Chambers, C., & Corkum, P. (2019). The impact of sleep restriction on daytime functioning in school-age children with and without ADHD: A narrative review of the literature. *Canadian Journal of School Psychology, 34*(3), 188-214. <https://doi.org/10.1177/0829573518770593>

- Dejonckheere, E., Mestdagh, M., Houben, M., Erbas, Y., Pe, M., Koval, P., ... & Kuppens, P. (2018). The bipolarity of affect and depressive symptoms. *Journal of personality and social psychology*, 114(2), 323.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575.
<https://doi.org/10.1037//0033-2909.95.3.542>
- Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. *Collabra. Psychology*, 4(1).
<https://doi.org/10.1525/collabra.115>
- Diener, E., Pressman, S. D., Hunder, J., & Delgado-Chase, D. (2017). If, why, and when subjective well-being influences health, and future research needed. *Applied Psychology: Health and Well-Being*, 9, 133-167.
<https://doi.org/10.1111/aphw.12090>
- Field, T. (2018). Paternal prenatal, perinatal and postpartum depression: A narrative review. *Journal of Anxiety & Depression*, 1(1). <https://doi.org/10.46527/2582-3264.102>
- Hall, W. A., Moynihan, M., Bhagat, R., & Wooldridge, J. (2017). Relationships between parental sleep quality, fatigue, cognitions about infant sleep, and parental depression pre and post-intervention for infant behavioral sleep problems. *BMC Pregnancy and Childbirth*, 17(1), 1-10.
<https://doi.org/10.1186/s12884-017-1284-x>
- Handcock, M. S., & Gile, K. J. (2011). Comment: On the concept of snowball sampling. *Sociological Methodology*, 41(1), 367-371. <https://doi.org/10.1111/j.1467-9531.2011.01243.x>

- Hiscock, H., & Fisher, J. (2015). Sleeping like a baby? Infant sleep: Impact on caregivers and current controversies. *Journal of Paediatrics and Child Health*, 51(4), 361-364. <https://doi.org/10.1111/jpc.12752>
- Kaya, A., Çelik, D., & Efe, E. (2022). The effect of a shaken baby syndrome prevention program on Turkish mothers' awareness and knowledge: A randomized controlled study. *Journal for Specialists in Pediatric Nursing*, e12369.
- Medic, G., Wille, M., & Hemels, M. E. (2017). Short-and long-term health consequences of sleep disruption. *Nature and Science of Sleep*, 9, 151-161. <https://doi.org/10.2147/NSS.S134864>
- Mihaila, I., & Hartley, S. L. (2018). Parental sleep quality and behavior problems of children with autism. *Autism*, 22(3), 236-244. <https://doi.org/10.1177/1362361316673570>
- Nomaguchi, K., & Milkie, M. A. (2020). Parenthood and well-being: A decade in review. *Journal of Marriage and Family*, 82(1), 198-223. <https://doi.org/10.1111/jomf.12646>
- Offer, S. (2016). Free time and emotional well-being: Do dual-earner mothers and fathers differ? *Gender & Society*, 30(2), 213-239. <https://doi.org/10.1177/0891243215596422>
- Okun, M. L., Mancuso, R. A., Hobel, C. J., Schetter, C. D., & Coussons-Read, M. (2018). Poor sleep quality increases symptoms of depression and anxiety in postpartum women. *Journal of Behavioral Medicine*, 41(5), 703-710. <https://doi.org/10.1007/s10865-018-9950-7>
- Paavonen, E. J., Saarenpää-Heikkilä, O., Morales-Munoz, I., Virta, M., Häkälä, N., Pölkki, P., Kylliäinen, A., Karlsson, H., Paunio, T., & Karlsson, L. (2020).

- Normal sleep development in infants: Findings from two large birth cohorts. *Sleep Medicine*, 69, 145–154. <https://doi.org/10.1016/j.sleep.2020.01.009>
- Pemberton, R., & Tyszkiewicz, M. D. F. (2016). Factors contributing to depressive mood states in everyday life: A systematic review. *Journal of Affective Disorders*, 200, 103-110. <https://doi.org/10.1016/j.jad.2016.04.023>
- Price, A. M., Wake, M., Ukoumunne, O. C., & Hiscock, H. (2012). Five-year follow-up of harms and benefits of behavioral infant sleep intervention: Randomized trial. *Pediatrics*, 130(4), 643-651. <https://doi.org/10.1542/peds.2011-3467>
- Qian, X., Yarnal, C. M., & Almeida, D. M. (2013). Does leisure time as a stress coping resource increase affective complexity? Applying the dynamic model of affect (DMA). *Journal of Leisure Research*, 45(3), 393-414. <https://doi.org/10.18666/jlr-2013-v45-i3-3157>
- Reynaud, E., Vecchierini, M. F., Heude, B., Charles, M. A., & Plancoulaine, S. (2018). Sleep and its relation to cognition and behaviour in preschool-aged children of the general population: A systematic review. *Journal of Sleep Research*, 27(3), e12636. <https://doi.org/10.1111/jsr.12636>
- Sadeh, A., Tikotzky, L., & Scher, A. (2010). Parenting and infant sleep. *Sleep Medicine Reviews*, 14(2), 89-96. <https://doi.org/10.1016/j.smr.2009.05.003>
- Saksvik-Lehouillier, I., Saksvik, S. B., Dahlberg, J., Tanum, T. K., Ringen, H., Karlsen, H. R., Smedbøl, T., SØrengaard, T. A., Stopel, M., Kallestad, H., & Olsen, A. (2020). Mild to moderate partial sleep deprivation is associated with increased impulsivity and decreased positive affect in young adults. *Sleep*, 43(10). <https://doi.org/10.1093/sleep/zsaa078>
- Schatz, E. (2012). Rationale and procedures for nesting semi-structured interviews in surveys or censuses. *Population Studies*, 66(2), 183-195. <https://doi.org/10.1080/00324728.2012.658851>

- Schwarz, J., Axelsson, J., Gerhardsson, A., Tamm, S., Fischer, H., Kecklund, G., & Åkerstedt, T. (2019). Mood impairment is stronger in young than in older adults after sleep deprivation. *Journal of Sleep Research, 28*(4), <https://doi.org/10.1111/jsr.12801>
- Sharda, E. A., Sutherby, C. G., Cavanaugh, D. L., Hughes, A. K., & Woodward, A. T. (2019). Parenting stress, well-being, and social support among kinship caregivers. *Children and Youth Services Review, 99*, 74-80. <https://doi.org/10.1016/j.childyouth.2019.01.025>
- Watson, N.F., Badr, M.S., Belenky, G., Bliwise, D.L., Buxton, O.M., Buysse, D., Dinges, D. F., Gangwisch, J., Grandner, M.A., Kushida, C., Malhotra, R.K., Martin, J.L., Patel, S.R., Quan, S., & Tasali, E. (2015). Recommended amount of sleep for a healthy adult: A joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep, 38*(6), 843–844. <https://doi.org/10.5665/sleep.4716>
- Zhi, T. F., Sun, X. M., Li, S. J., Wang, Q. S., Cai, J., Li, L. Z., Li, Y. X., Xu, M. J., Wang, Y., Chu, X. J., Wang, Z. D. & Jiang, X. Y. (2016). Associations of sleep duration and sleep quality with life satisfaction in elderly Chinese: The mediating role of depression. *Archives of Gerontology and Geriatrics, 65*, 211-217. <https://doi.org/10.1016/j.archger.2016.03.023>