Income, the perceived burden of childcare, and parental well-being

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Abstract

"Money can buy happiness" is a common belief and there is empirical evidence supporting this. The current literature on income and family well-being often focusses on child outcomes or parenting behaviours, and is lacking in insight into the effects of income on the well-being of parents. Furthermore, income might have a quadratic effect on the perceived burden of childcare (PBC), which is a burden that rises as the demands of childcare increase and/or the resources available to parents decrease. Low-income parents have access to less childcare resources, increasing PBC. Meanwhile, parents with a high income are willing to devote less of their available resources to childcare and have higher perceived demands of childcare, also increasing PBC. It was hypothesized that while income increases life satisfaction, PBC decreases this. Additionally, both low-income and high-income parents are hypothesized to experience more PBC than medium-income parents. Using regressions on a subsample of 506 parents with children under 14 years old from the LISS data archive, the results show that indeed life satisfaction is influenced positively by income and negatively by PBC. However, no significant association was found between income and PBC. The current study has established that PBC decreases parental life satisfaction and future research into the mechanisms affecting PBC, e.g. parental education, will enable specific interventions to be developed to combat PBC and increase parents' well-being.

Keywords: parental well-being, income, perceived burden of childcare, childcare demands, childcare resources

Introduction

What makes some parents happier than others? Parenting seems to be associated with experiencing both more positive and more negative emotions compared to non-parenting (Negraia & Augustine, 2020). The theoretical model by Nelson et al. (2014) shows that, on the one hand, parenthood leads to more purpose and meaning in life, more human needs fulfilment, experiencing more positive emotions, and experiencing more social roles, leading to more well-being. On the other hand, however, parenthood also leads to experiencing more negative emotions, more financial strain, more sleep disturbances, and strained partner relationships, leading to less well-being. The interesting question here is which factors determine which parents experience more well-being than others. For example, older parents, fathers, and married parents have been found to experience more well-being (Nelson et al., 2014). The effect of income is less clear, as while high-income jobs increase resources available to parents, they might, due to a focus on more individual goals and a rise in parenting expectations, cause a rise in the perceived burden of childcare (PBC). PBC, which increases as the demands of childcare rise compared to the available parenting resources, is a concept that has not been studied much. In the current study, the focus will be on the effects of income and PBC on parents' well-being. The indicator for well-being will be life satisfaction, defined as "a global assessment of a person's quality of life according to his chosen criteria" (Diener et al., 1985).

The general relationship between income and well-being has been well studied in literature, with a higher income being related to greater overall life satisfaction (Diener & Oishi, 2000). Experienced well-being has been found to rise linearly with log income, both above and below an income of $80,000/y (Killingsworth, 2021). Gross monthly income is also positively related to the sum of mental well-being and the separate dimensions of

emotional, psychological, and social well-being (Syrén et al., 2020), whilst a low income predicts more depression and anxiety disorders (Kessler & Bromet, 2013). Furthermore, the higher income that education generates, and not the higher education levels themselves (education being a different indicator of socioeconomic status (SES)), is related to more subjective well-being (Olsen et al., 2020) for the general population.

It is of interest to see if the general income-well-being relationship also holds specifically for parents. There has been relatively little research into this: more often in the existing literature, the focus is on child outcomes or parenting behaviours. There are indications, however, that income is also positively related to well-being for parents. Indirect evidence shows that, for parents, a lower income might be related to experiencing more negative emotions, such as depressive symptoms (Fassbender & Leyendecker, 2018; Williams et al., 2015) and psychological distress (Masarik & Conger, 2017). Additionally, for parents working low-skilled jobs, work often offers too little pay to adequately support a family (Bianchi, 2011), leading to more worries about children's safety and access to health care or education (Nelson et al., 2014). Furthermore, as well as leading to more negative emotions, a lower income is also assumed to lead to more strained partner relationships, based on indirect evidence linking a low income to more relationship distress (Williams et al., 2015), more interparental relationship problems (Masarik & Conger, 2017) and less marital stability (Conger et al., 2010). These negative emotions and strained partner relationships lead to less parental well-being (Nelson et al., 2014).[1] These mediators explain why a SES has been found to be related to a lower life satisfaction for parents (Fassbender &

[1] The model by Nelson et al. (2014) also names financial hardship as a mediator linking parenthood to less parental well-being. This is supported by research by Bird (1997) which described economic hardship as a mediator between parenthood and psychological distress. Within parents, however, the current study assumes income affects life satisfaction with negative emotions and relationship disturbances as mediators.

Leyendecker, 2018). However, none of the studies mentioned relate a direct measurement of income to life satisfaction, but instead use measures of SES (Fassbender & Leyendecker, 2018) or self-reported economic hardship[2] (Masarik & Conger, 2017; Williams et al., 2015), and don't always look at parents specifically (Conger et al., 2010; Williams et al., 2015). Conger et al., (2010) do link a direct measurement of income to more marital stability, but do not measure broader life satisfaction. Theory and studies with SES and economic hardship thus provide indirect evidence to believe that the general relationship between income and well-being also holds for parents. However, looking into income directly as a factor in a sample of parents specifically will give this notion stronger support. Therefore, the current study hypothesizes (H1) that there is a positive linear effect of income on life satisfaction (controlling for PBC).

Research into the mechanisms behind parental well-being is important as poor parental well-being has negative effects on parenting behaviour and child outcomes for both mothers (Lovejoy et al., 2000) and fathers (Stockman, 2007). Parental distress, negative affects or depression are related to more negative parenting behaviours (Nelson et al., 2014), leading to problems with children's emotional and social development (Porter et al., 2019), and infant's well-being and health (Missler et al., 2018). Income plays a role in this: a poor family economy has been related to child mental health problems through both parental emotional well-being and parenting practices (Bøe et al., 2014), and economic hardship is related to disrupted parenting, which in turn lead to child maladjustment (Masarik & Conger, 2017). Identifying which parents are mostly at risk for decreased well-being due to income factors, and looking into the specific mechanisms behind this relationship will provide

[2] Economic hardship is measured by self-reports answering questions about, e.g., not being able to afford necessities or pay bills.

knowledge on which parents to target and what future interventions can be developed to improve both parental well-being and, with that, child outcomes.

One of the mechanisms specific to parents in the income-well-being relationship might be the perceived burden of childcare (PBC). There has been little research done on the concept of PBC specifically, so attention must be paid to the exact definition used. In the current study, PBC will be defined as a burden that rises due to the stress of the demands of childcare rising in respect to the resources parents are able or willing to dedicate to childcare. Opposed to the general life satisfaction which is used as the indicator for well-being in the current study, PBC is more related to stresses and burdens specific to parenthood. These stresses and burdens are then assumed to decrease general well-being. This is supported by the indirect evidence that the perceived constraint due to fatherhood has been found to have a negative effect on life satisfaction (Ruppen et al., 2016), and that "perceived time deficits for the responsibilities and joys of childrearing" are related to distress (Milkie et al., 2019). Relating this to the theoretical model by Nelson et al., (2014), an increase in PBC is assumed to lead to reduced purpose and meaning of parenthood, reduced human needs fulfillment and experiencing more negative emotions associated with parenthood, and a higher PBC is thus assumed to reduce well-being for parents. Indirect evidence to support these relationships comes from research on the topic of parental burnout (PB). A PB occurs when there is a perceived gap between parenting demands and resources available to parents over a continued time period (Mikolajczak et al., 2021). PB is associated with adverse parenting behaviours such as parental neglect and violence (Mikolajczak et al., 2020) and emotional distancing from one's children (Roskam et al., 2018). When risks (factors that increase parental stress) chronically exceed resources (factors that decrease parental stress), the risk of parental burnout increases (Mikolajczak & Roskam, 2018). Parental burnout thus results from chronic high levels of parenting-related stress (Griffith, 2022). Here, PBC is assumed to have

a similar role as parenting-related stress: when there is a high PBC for a continued period of time, there is a higher chance of a PB occurring[3]. A PB results in experiencing less purpose and meaning of parenthood, as parents experience feelings of being fed up with one's parental role (Roskam et al., 2018), and also with reduced human needs fulfilment, as parents are no longer able to enjoy childcare responsibilities (Mikolajczak et al., 2021). Furthermore, parents with a PB experience more negative emotions, namely chronic stress leading to exhaustion (Mikolajczak et al., 2021), and depressive symptoms (Mikolajczak et al., 2020). In the same way as PB has been conceptually distinguished from depressive symptoms (Mikolajczak et al., 2020), PBC is assumed to be a separate concept from life satisfaction, even though a high PBC may cause similar negative emotions and decreases in the purpose and meaning of parenthood and human needs fulfillment, which lower life satisfaction. Therefore it is hypothesized that (H2) there is a negative linear effect of PBC on life satisfaction (controlling for income).

As stated above, PBC increases when childcare demands increase and/or childcare resources decrease. Income might be a factor influencing both childcare (perceived) demands and resources. In the current study, it is hypothesized that both low-income and high-income parents might experience more PBC compared to medium-income parents, so that a non-linear relationship exists between income and PBC.

[3] Another conceptual difference between PB and PBC is that PB is also influenced by stressors unrelated to childcare, such as work-related stresses and worries about personal finances (Lindström et al., 2011), as stress 'spills over' between different life domains (De Coster & Kort-Butles, 2006). PBC, however, by definition, only entails childcare-related demands and resources.

Parents with a low income have access to less childcare resources. Having a low household income makes childcare resources such as babysitting and extra-curricular activities unaffordable (Mikolajczak et al., 2018), which could heighten PBC. Low-income jobs also lead to more time strain for parents, as these jobs often require working many hours or multiple jobs to be able to sustain family needs. This time strain increases perceived time deficits for the responsibilities and joys of childrearing (Milkie et al., 2019). Lack of leisure time is also related to parental burnout (Lindström et al., 2011) and is assumed to increase PBC. Furthermore, low-income parents have a harder time arranging childcare due to less work schedule control (Bianchi, 2011). Workplace inflexibility has been found to be related to more parenting stress, defined as "individuals' sense of difficulties in meeting expected demands of the parenting role" in both fathers and mothers (Nomaguchi & Johnson, 2016). This lack of schedule control also makes the childcare resource of family organization less available to low-income parents. Service sector workers more often experience daily hassles (Fassbender & Leyendecker, 2018) and child-care scrambles, having to arrange childcare in a stressful ad hoc manner, which impose a psychological burden on parents (Carrillo et al., 2017). Instability in work schedules thus produces instability at home (Carrillo et al., 2017) and this family disorganization has been found to increase the risk of parental burnout (Mikolajczak et al., 2018). All these strains on available childcare resources are assumed to increase the perceived burden of childcare for parents working low-income jobs.

On the other hand, parents with a high income might also experience more PBC compared to medium-income parents. High-income parents have more available resources but are less willing to devote these resources to childcare. The first reason for this is that a greater income means a higher value of time (Devoe & Pfeffer, 2010), causing high-income parents to experience more opportunity costs during childcare. High-SES parents more often reported "wanting or needing to be doing other activities" during childcare (Kushlev, 2011).

The second reason that high-income parents are less willing to devote their resources to childcare, is that they find parenthood less fulfilling than medium or low-income parents. SES has been negatively linked to the average sense of meaning that parents experience during childcare (Kushlev et al., 2012). The reason behind this finding might be that working high-income, challenging jobs causes parents to place more importance on agentic goals (like personal career achievements and independence from others) versus communal goals (like parenting) (see Kushlev et al., (2012) for a review). In a review on communal and agentic content, Abele & Wojciszke (2014) define agentic content as relating to individual goal-achievement and task functioning and communal content as relating to relationship maintainment and social functioning. Based on both a lexical and functional approach, these concepts reflect broad clusters in behaviour and social cognition (Abele & Wojciszke, 2014). Similarly, among fathers, a higher implicit need for power, opposed to an implicit need for affiliation, has been found to be associated with a higher perceived constraint due to fatherhood (Ruppen et al., 2016). Thus, although high-income parents are financially able to trade work hours for leisure or childcare time, they are less willing to do so as it might reduce their opportunities to reach agentic goals such as promotions.

Additionally, high-income parents might also have higher expectations for themselves. Income has been related to experiencing both more intensive mothering standards and higher career expectations, leading to more work-family conflict (Yan, 2022). These high parental standards predict parental burnout (Mikolajczak & Roskam, 2018). Parents with high incomes are thus less willing to devote resources to childcare and have higher perceived demands of childcare that make the perceived mismatch between parenting demands and resources, and with that PBC, greater. Therefore, the current study hypothesized an U-shaped relationship between income and PBC for parents, with both low-income and high-income parents experiencing more PBC than medium-income parents (H3).

However, the current study still hypothesizes that income will have a generally positive effect on well-being, even though high-income parents experience more PBC. This is because although high-income parents receive less meaning from parenthood, overall purpose and meaning in life is not expected to be reduced as agentic goals also lead to purpose and well-being. This is supported by the finding that SES was negatively related to the average sense of meaning that parents experienced during childcare, while being unrelated to the average sense of meaning experienced during the rest of the day (Kushlev et al., 2012).

The current study will bring novel insight on the income-well-being relationship for parents specifically. Although there has been ample research on the relationship between income and well-being in general, this relationship has not been studied thoroughly for the subgroup of parents using a direct measure of income. Furthermore, there is a gap in the current literature knowledge, with very little studies looking into the PBC of parents. The research question of the current study will thus be: what are the effects of income and the perceived burden of childcare (PBC) on overall life-satisfaction of parents and what is the effect of income on PBC? The current study will answer the research question on income, PBC and life satisfaction of parents by evaluating the hypotheses that (1) there is a positive linear effect of income on life satisfaction (controlling for PBC), (2) there is a negative linear effect of PBC on life satisfaction (controlling for income) and (3) there will be an U-shaped relationship between income and PBC.

Methods

Dataset

Data were collected by the LISS panel (Longitudinal Internet studies for the Social Sciences) from the independent non-profit research institute CentERdata, based on the campus of Tilburg University in the Netherlands. The LISS panel consists of approximately

7500 individuals from 5000 households, who fill out online questionnaires every month. The panel was originally sampled by means of a traditional random sample drawn from Dutch population registers in 2007. Part of the monthly questionnaire consists of the LISS Core Study, a longitudinal study with yearly data on domains such as work, income, housing and political views. All data are made available through the LISS data archive (https://www.dataarchive.lissdata.nl/). LISS panel respondents have read and agreed to the LISS informed consent, rendering further approval by the Ethical Review Board (ERB) unnecessary.

Sample

The data used in the current study is cross-sectional, comparing characteristics between respondents who filled in the questionnaires in March or June of 2013. The working sample was created by selecting parents with one or more children younger than 14 years old, as this is the target population. After removing missing data and outliers, this left 506 individuals in the sample.

An a priori power analysis was conducted using G*Power version 3.1.9.4 for sample size estimation. The analysis was conducted for hypothesis 3 on the U-shaped relationship between income and PBC, as this quadratic effect might show the smallest effect size. The effect size of $f^2 = 0.02286$ used for the analysis was based on data from Kim et al., (2022)[4]. This is considered to be a small effect size using Cohen's (1988) criteria. With a significance level of $\alpha = .05$ and power = 0.80, the minimum sample size needed with this effect size is $N = 346$ for the hierarchical multiple regression with an F-test that will be used. Thus, the obtained sample size of $N = 506$ is adequate to test hypothesis 3.

[4] This study (N =10456) used a hierarchical multiple regression to detect an U-shaped effect of Age^2 on well-being. Age^2 had an F_{change} of 39.8180, which can be converted to an R_{change} of 0.02235, which in turn was converted by G*Power to a f^2 of 0.02286.

Measures

Perceived Burden of Childcare (PBC) - PBC was measured with five statements: (1) "All in all, caring for my child is not such a burden," (2) "Caring for my child demands too much of me," (3) "Caring for my child is very taxing for me," (4) "Caring for my child costs so much energy, that others (e.g. partner or children) sometimes get too little attention," (5) "My child is very easy to care for." Participants reported the extent to which they agreed or disagreed with each statement on a six-point scale (1 = *disagree entirely* to 6 = *agree entirely*). They filled in this statement about one randomly chosen child. Statement 1 and 5 were reverse coded, so that a higher score on the scale indicates higher PBC. The Cronbach's alpha of the five-item scale is 0.819, which is considered to be a good internal consistency.

Life Satisfaction (LS) - LS was measured with Dieners Satisfaction With Life Scale (SWLS) (Diener et al., 1985). This scale consists of five statements: (1) "In most ways my life is close to my ideal," (2) "The conditions of my life are excellent," (3) "I am satisfied with my life," (4) "So far I have gotten the important things I want in life," (5) "If I could live my life over, I would change almost nothing." Participants reported the extent to which they agreed or disagreed with each statement on a seven-point scale (1 = *strongly disagree* to 7 = *strongly agree*). A higher score on the scale indicates higher LS. The Cronbach's alpha of the five-item scale is 0.875, which is considered to be a good internal consistency.

Income - Income is defined as the net household income in Euros. This is a derived variable, imputed by the monthly income of all household members combined. It is a continuous variable measured in whole Euros.

Control variables

The control variables used in this study are age and gender of the parent, the number of children, the age of the child randomly chosen for the PBC scale, and partnership status (whether the respondent lives together with a partner). These control variables were chosen

because they each have been found to be moderators in the parenthood-wellbeing relationship (Nelson et al., 2014). Education of the parent was also added as a control variable to distinguish the effect of income on well-being beyond what education can explain, as education and income are highly related. Education was condensed into three categories: low education (no education or primary school), medium education (secondary education or intermediate vocational education) and high education (higher vocational education or university), to allow for some controlling of education without making the analysis unnecessarily complex. Two dummy variables of education were added to the model with 'medium education' being the reference group, to enable easy interpretation of the effects of a low and high education.

Analysis Plan

Hypotheses 1 and 2 were analysed using multiple linear regression, whilst hypothesis 3 was analysed using hierarchical multiple regression adding income and the quadratic term of income in the same step. Analyses were carried out using the software IBM Statistics SPSS 27. Preliminary analysis using scatter plots to examine the three main variables (LS, PBC and Income), found 5 outliers who filled in an income of 0 or 10000 euros, which were left out of the dataset. Seven participants answered 7 = "other" on their education level, these cases were considered as missing data and left out of the analysis. The linearity assumption was tested for hypotheses 1 and 2 and was not violated. For all hypothesis, the assumptions of (a) a normal distribution of residuals, (b) no multicollinearity and (c) homoscedasticity were tested. Homoscedasticity and multicollinearity were not violated. The assumption of normality was assessed using a Kolmogorov-Smirnov test and was violated for each hypothesis. However, regression is fairly robust for non-normality and the analyses were carried out as normal. One regression was performed to analyse both hypotheses 1 and 2, in which the direction and significance of the income and PBC terms, respectively, were

assessed, whilst controlling for the other term. For hypothesis 3, PBC was predicted from two hierarchical models. The first model only included control variables, whilst the second model added the linear and quadratic effects of income. The significance of a curvilinear relationship between income and PBC was confirmed if the model adding the linear and quadratic terms of income showed a significant F_{change}. Positive values of the higher order term indicated a U-shaped relationship between income and PBC, while negative values indicated an inverse U-shaped relationship.

Results

Descriptive

The sample consisted of 506 parents, consisting of 44,3% males and 55,7% females. No parents indicated having more than 5 children, giving a range of 1 to 5 children. The mean age of parents in the sample was M=40,66 years. The average monthly income in the sample was 3122.85 euros (SD = 1254.045), with a range of incomes from 250 to 9900 euros each month. The average perceived burden of childcare score was 11.90 on a scale of 5 to 30. The average life satisfaction score was 25.57 on a scale of 5 to 35. 2,8% of the sample had a low education, 58,3% had a medium education and 38,9% had a high education. For the low education group, average monthly income was 1892,50 euros. In the medium education group this was 2872,33 euros and in the high education group 3585,44 euros.

Table 1 contains descriptive statistics and correlations on the variables income, perceived burden of childcare (PBC) and life satisfaction (LS). A significant positive correlation was found between LS and income, whilst a significant negative correlation was found between LS and PBC.

Table 1

Descriptive statistics and correlations of income, the perceived burden of childcare, and life satisfaction

	Mean (SD)	Minimum	Maximum	1	2
1. Income	3112 (1254)	250	9900		
2. Perceived burden of childcare	11.90 (4.77)	5	28	-0.061	
3. Life satisfaction	25.57 (5.19)	8	35	0.237**	-0.119**

Note. **Correlation is significant at the 0.01 level (2-tailed).

Inferential

The hypotheses were tested using regression analysis in IBM Statistics SPSS 27.

Hypothesis 1. The first two hypotheses were analysed using the regression presented in Table 2. Hypothesis 1 states that there is a positive linear effect of income on life satisfaction (controlling for PBC). Net household income indeed had a positive effect on LS, $b = .001$, $t(496) = 3.556$, $p < .001$. Therefore, the results supported hypothesis 1.

Hypothesis 2. Hypothesis 2 states that there is a negative linear effect of PBC on life satisfaction (controlling for income). The perceived burden of childcare indeed had a negative effect on LS, $b = -.136$, $t(496) = -2.908$, $p = .004$. Therefore, the results supported hypothesis 3.

Apart from PBC and LS, the age of the child had a significant negative effect on LS, whilst partnership status and the high education dummy had significant positive effects on LS.

Table 2

Linear regression of income and the perceived burden of childcare on life satisfaction

Predictor variables	B	SE (B)	β	*p*
(Intercept)	25.553	2.022		0.000
Age of the parent	-0.10	0.045	-0.012	0.818
Gender of the parent	0.729	0.462	0.070	0.115
Number of children	0.226	0.286	0.040	0.353
Age of the child	-0.301	0.105	-0.144	0.004**
Partnership status	1.621	0.708	0.103	0.023*
Low education dummy	-1.725	1.364	-0.055	0.207
High education dummy	1.004	0.486	0.094	0.039*
Household income	0.001	0.000	0.169	0.000**
Perceived burden of childcare	-0.136	0.047	-0.125	0.004**

Note. *significant at the 0.05 level. **significant at the 0.01 level.

Hypothesis 3. The third hypothesis was analysed using the regression presented in Table 3. Hypothesis 3 states that there will be an U-shaped relationship between income and PBC. However, adding income and squared income did not significantly improve the model, with change statistics $R^2 = 0.002$, $F(2, 496) = .632$, $p = .532$. Income showed $b = 3.20E^{-4}$, $t(496) = -0,530$, $p = .596$, whilst income-squared showed $b = 1.389E^{-8}$, $t(496) = 0.193$, $p =$

.847. Only the first model showed a significant R^2 change, with change statistics $R^2 = 0.029$, $F(7, 496) = 2.117$, $p = .040$. Therefore, the results did not support hypothesis 3.

Table 3

Hierarchical regression of linear and quadratic income terms on the perceived burden of childcare

Predictor Variables	Model 1	Model 2
(Intercept)	14.965	15.250
Age of the parent	-0.042	-0.034
Gender of the parent	-0.098	-0.099
Number of children	0.387	0.383
Age of the child	-0.178	-0.183
Partnership status	-0.836	-0.564
Low education dummy	2.155	1.925
High education dummy	0.528	0.665
Household income		0.000
Household income-squared		1.389E-8
R^2	0.029	0.031
R^2 change	0.029*	0.002

Note. The table shows regression coefficients for each predictor and R^2 and R^2 change for each model. *significant at the 0.05 level.

Discussion

The current study investigated the following research question: what are the effects of income and the perceived burden of childcare (PBC) on the overall life-satisfaction of parents and what is the effect of income on PBC? Income was found to have a positive effect on life satisfaction, which was expected as a higher income was assumed to reduce negative emotions (depressive symptoms, psychological distress, child-related worries) and lead to healthier partner relationships, leading to more well-being for parents. A negative effect of PBC on life satisfaction was found, which was also expected as a higher PBC leads to reduced purpose and meaning of parenthood experienced, reduced human needs fulfillment and more negative emotions associated with parenthood, all assumed to reduce well-being for parents. It was assumed that a low income would lead to less childcare resources and increase PBC, whilst a high income would make parents less willing to dedicate resources to childcare and increase perceived childcare demands, and thus also increase PBC, compared to a medium income. However, no significant results were found for the effect of income on PBC.

In line with hypothesis 1, a positive linear effect of net household income on life satisfaction was found in parents. Previous research has also found income to be related to a higher experienced well-being for the general population (Killingsworth, 2021; Syrén et al., 2020; Olsen et al., 2020), and has related a lower SES (Fassbender & Leyendecker, 2018) or self-reported economic hardship (Masarik & Conger, 2017; Williams et al., 2015) to less well-being, but the current study looked directly into income as a predictor and general life satisfaction as an outcome in a sample of parents specifically and was thus able to confirm that the relationship found in the general population also holds for parents specifically. A practical implication is that government programs aiming to improve parents' wellbeing should be targeted to low-income parents. However, constrained by the scope of this study, the income-well-being relationship for parents can only be interpreted based on existing

empirical and theoretical knowledge. Combining the theoretical model by Nelson et al., (2014) with empirical studies on SES and economic hardship, it is assumed that a higher income leads to parents experiencing less negative emotions like depressive symptoms (Fassbender & Leyendecker, 2018; Williams et al., 2015), psychological distress (Masarik & Conger, 2017) and child-related worries (Bianchi, 2011; Nelson et al., 2014), and to less strain on partner relationships (Conger et al., 2010; Masarik & Conger, 2017; Williams et al., 2015), and therefore leads to more life satisfaction. A further interesting finding might be on education. In the first regression, whilst controlling for education, a positive effect of income on LS was found. However, whilst controlling for income, a high education also had a positive effect on LS (though a low education had no effect). Research by Olsen et al. (2020) showed that in the general population, not education itself, but the higher income that education generates, increases well-being. However, for parents, a high education has been linked to experiencing less parenting anxiety (Nomaguchi & Brown, 2011). It is therefore of interest to see if education might also influence parental well-being through parenting anxiety, in addition to an effect through income. The current study did not perform the interaction analysis needed to be able to draw conclusions on this, but it is an interesting direction for future research. Future research looking into the effects of education and directly into the other factors that theoretically mediate the income-well-being relationship for parents (negative emotions and partner relationships), will give more insight into how these mechanisms operate for parents and give clearer directions for targeted interventions.

In line with hypothesis 2, a negative linear effect of the perceived burden of childcare (PBC) on life satisfaction was found. There has not been previous research into this topic with the current definition of PBC as increasing when childcare demands rise compared to the resources parents are willing or able to dedicate to childcare. However, the findings are in line with research on similar topics showing that the perceived constraint due to fatherhood

has a negative effect on life satisfaction (Ruppen et al., 2016), and that a parental burnout is related to reduced purpose and meaning of parenthood (Roskam et al., 2018), reduced human needs fulfillment (Mikolajczak et al., 2021) and experiencing more negative emotions (Mikolajczak et al., 2020; Mikolajczak et al., 2021). The negative effect found shows that when childcare is experienced as a great burden, this has a negative impact on well-being of parents. This research thus could be used to politically support government programs aimed at making childcare services more accessible to all parents (to increase childcare resources), or individual programs looking to better work-life balance for parents working jobs with high pressure to achieve (to increase the willingness to devote resources to childcare). To develop these kinds of specific interventions to reduce PBC and improve parental well-being, future research should try to determine which factors influence the PBC that parents experience. In the current research, income was explored as one of such factors, but results were not significant.

Hypothesis 3 stated that an U-shaped relationship should exist between income and PBC. However, no significant results were found in the regression. Income does not seem to have a significant effect on the perceived burden of childcare felt by parents. The income term had a very small, insignificant negative association with PBC whilst the association of income-squared with PBC was very small and insignificant as well, but U-shaped[5]. In the same model, controlling for income, both a low education and a high education showed positive associations with PBC compared to a medium education, which is in line with the expected U-shaped effect. The low and high education terms showed lower (yet still not significant) p-values[6], compared to the income and income-squared terms. This might be an

[5] Income showed b = $3.20E^{-4}$, t(496) = -0,530, p = .596, income-squared showed b = $1.389E^{-8}$, t(496) = 0.193, p = .847

[6] The dummy for a low education showed b = 1.925, t(496) = 1.451, p = .147, while the dummy for a high education showed b = 0.665, t(496) = 1.423, p = .155.

indication that not income, but education determines how much PBC parents experience. In the current results, the hypothesized quadratic relationship with PBC was closer to being found when using education as a predictor than when using income. Relating this to the underlying theory, it might be that not a low income level, but a low education level is related to jobs that decrease the available childcare resources through more time strain (Lindström et al., 2011; Milkie et al., 2019), less work schedule control (Bianchi, 2011; Nomaguchi & Johnson, 2016), and a higher family disorganization (Mikolajczak et al., 2018). Similarly, it might be high-education jobs, and not high-income jobs, that make parents willing to devote less resources to childcare due to experiencing less fulfilment from parenthood (Kushlev et al., 2012; Ruppen et al., 2016). The research by Yan (2022) related a high SES to more intensive mothering standards and higher career expectations, leading to more work-family conflict, and this relationship might be caused more by the education effect of SES than the income effect. The same might be true for the higher SES that was related to a lower sense of meaning during childcare (Kushlev et al., 2012). Additionally, research directly into education has linked a higher education to finding parenthood less fulfilling (Kushlev, 2011), and experiencing less new meaning from parenting, feeling more trapped in the parenting role and experiencing greater perceived demands of having a successful career (Nomaguchi & Brown, 2011). The reason that education did not have a significant effect in the regression on PBC in the current study might be because only a small percentage of the sample had a low education (2,8%). In future research, education can be explored as a possible predictor for PBC. It should be kept into mind that these analyses have a speculative character, but in future research using a bigger sample with more equal education groups, significant effects may be found. Another possibility is that demographic factors such as education and income simply do not have large effects on PBC. In research into parental burnout (PB), the strongest predictors for a PB were found to be (i) psychological characteristics of parents, (ii) the

characteristics of children, (iii) child-rearing practices, (iv) the quality of the relationship with the coparent, (v) the level of extrafamilial support, (vi) the way that family life is organized and (vii) the time available for leisure (Mikolajczak et al., 2021). Of these predictors, only (iv) the quality of the relationship with the co-parent, (vi) the way that family life is organized and (vii) the time available for leisure are theoretically strongly linked with income or education factors. It is however not surprising that demographic factors lose their effect when other factors that might be affected by these demographics (e.g. leisure time or parenting standards) are controlled for (Mikolajczak & Roskam, 2018). It is of interest for future research to investigate which demographics influence PBC through which mechanisms. The current study has set a first step in clearly defining the perceived burden of childcare and linking a higher PBC to a decreased well-being. The next step is to look more directly into different possible antecedents and mechanisms influencing PBC to know which parents to target in which ways with PBC-reducing interventions.

Some strengths of the current study are that the scales used to measure PBC and LS had high internal reliabilities, and that many control variables were implemented to control on the known mediating factors between income and well-being.

However, the current study also has some limitations. The first limitation is that the perceived burden of childcare scale was only filled in about 1 randomly chosen child. Although the number of children is taken as a control variable, the exact perceived burden of childcare of these other children is unknown and therefore could not be taken as a control variable. In future studies, the PBC of all children together could be measured and the number of children used as a control variable. Furthermore, this study controls for the age of the randomly chosen child, but not for the age of other children in the same household, which could also influence parental well-being and the PBC of the other child. For example, if the randomly chosen child has a much younger sibling, their PBC might seem lower in

comparison. Another limitation is that the data used for this study is from a sample in 2013. Since then, demographic changes, for example the increase in at-home working since the covid pandemic, might have had effects on the found relations. Another limitation is that the assumption of normality was violated for the performed regressions. While the regressions are fairly robust for validity when facing nonnormality, they may not be the tests with the greatest power to detect effects with a nonnormal distribution. Other analysis methods might have been more powerful, but constrained by limitations in time and skill available for this study, these methods were not feasible. The use of regression might therefore also have been a factor in the null result found for hypothesis 3.

Despite these limitations, this study contributes to the current literature on income and parental well-being by exploring this relationship directly in a sample of parents, and confirming the positive effect of income of life satisfaction for parents specifically. Furthermore, the current study aids in reducing the knowledge gap on the perceived burden of childcare (PBC). PBC was found to have a negative effect on life satisfaction, indicating that reducing PBC will improve parental well-being. Future research into the different factors that might cause a higher PBC, e.g. education, will further improve our understanding of this concept and assist in creating targeted governmental intervention programs to improve parents' well-being.

References

Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspective model. In *Advances in Experimental Social Psychology* (Vol. 50, pp. 195–255). Academic Press Inc. https://doi.org/10.1016/B978-0-12-800284-1.00004-7

Bianchi, S. M. (2011). Changing families, changing workplaces. *Future of Children*, *21*(2), 15–36. https://doi.org/10.1353/foc.2011.0013

Bird, C. E. (1997). Gender Differences in the Social and Economic Burdens of Parenting and Psychological Distress. In *Source: Journal of Marriage and Family* (Vol. 59, Issue 4).

Carrillo, D., Harknett, K., Logan, A., Luhr, S., & Schneider, D. (2017). Instability of Work and Care: How Work Schedules Shape Child-Care Arrangements for Parents Working in the Service Sector. In *Social Service Review*.

Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family processes,and individual development. In *Journal of Marriage and Family* (Vol. 72, Issue 3, pp. 685–704). https://doi.org/10.1111/j.1741-3737.2010.00725.x

De Coster, S., & Kort-Butler, L. (2006). How General is General Strain Theory? Assessing Determinacy and Indeterminacy across Life Domains. *Journal of Research in Crime and Delinquency, 43*(4), 297–325. https://doi.org/10.1177/0022427806291272

Devoe, S. E., & Pfeffer, J. (2010). *Time Is Tight: How Higher Economic Value of Time Increases Feeling of Time Pressure*. http://ssrn.com/abstract=1694704http://ssrn.com/abstract=1694704

Diener, E., Emmons, R. A., Larsem, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 185–218). The MIT Press.

Fassbender, I., & Leyendecker, B. (2018). Socio-economic status and psychological well-being in a sample of Turkish immigrant mothers in Germany. *Frontiers in Psychology*, *9*(OCT). https://doi.org/10.3389/fpsyg.2018.01586

Fonseca, A., Nazaré, B., & Canavarro, M. C. (2015). Parenting an Infant with a Congenital Anomaly: How are Perceived Burden and Perceived Personal Benefits Related to Parenting Stress? *Journal of Clinical Psychology in Medical Settings*, *22*(1), 64–76. https://doi.org/10.1007/s10880-015-9418-7

Kessler, R. C., & Bromet, E. J. (2013). The epidemiology of depression across cultures. In *Annual Review of Public Health* (Vol. 34, pp. 119–138). https://doi.org/10.1146/annurev-publhealth-031912-114409

Killingsworth, M. A. (2021). *Experienced well-being rises with income, even above $75,000 per year. 118*(4). https://doi.org/10.1073/pnas.2016976118/-/DCSupplemental

Kim, J. H., Choi, E., Kim, N., & Choi, I. (2022). Older people are not always happier than younger people: The moderating role of personality. *Applied Psychology: Health and Well-Being*. https://doi.org/10.1111/aphw.12377

Kushlev, K. (2011). Exploring parental well-being: Is childcare associated with parental well-being and what factors can enhance it. *Doctoral Dissertation, University of British Columbia*.

Kushlev, K., Dunn, E. W., & Ashton-James, C. E. (2012). Does affluence impoverish the experience of parenting? *Journal of Experimental Social Psychology*, *48*(6), 1381–1384. https://doi.org/10.1016/j.jesp.2012.06.001

Lindström, C., Åman, J., & Norberg, A. L. (2011). Parental burnout in relation to sociodemographic, psychosocial and personality factors as well as disease duration and glycaemic control in children with Type 1 diabetes mellitus. *Acta Paediatrica, International Journal of Paediatrics*, *100*(7), 1011–1017. https://doi.org/10.1111/j.1651-2227.2011.02198.x

Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the Family Stress Model. In *Current Opinion in Psychology* (Vol. 13, pp. 85–90). Elsevier. https://doi.org/10.1016/j.copsyc.2016.05.008

Mikolajczak, M., Gross, J. J., & Roskam, I. (2021). Beyond Job Burnout: Parental Burnout! In *Trends in Cognitive Sciences* (Vol. 25, Issue 5, pp. 333–336). Elsevier Ltd. https://doi.org/10.1016/j.tics.2021.01.012

Mikolajczak, M., Gross, J. J., Stinglhamber, F., Lindahl Norberg, A., & Roskam, I. (2020). Is Parental Burnout Distinct From Job Burnout and Depressive Symptoms? *Clinical Psychological Science*, *8*(4), 673–689. https://doi.org/10.1177/2167702620917447

Mikolajczak, M., Raes, M. E., Avalosse, H., & Roskam, I. (2018). Exhausted Parents: Sociodemographic, Child-Related, Parent-Related, Parenting and Family-Functioning Correlates of Parental Burnout. *Journal of Child and Family Studies*, *27*(2), 602–614. https://doi.org/10.1007/s10826-017-0892-4

Mikolajczak, M., & Roskam, I. (2018). A theoretical and clinical framework for parental burnout: The balance between risks and resources (BR2). *Frontiers in Psychology*, *9*(JUN). https://doi.org/10.3389/fpsyg.2018.00886

Milkie, M. A., Nomaguchi, K., & Schieman, S. (2019). Time Deficits with Children: The Link to Parents' Mental and Physical Health. *Society and Mental Health*, *9*(3), 277–295. https://doi.org/10.1177/2156869318767488

Negraia, D. V., & Augustine, J. M. (2020). Unpacking the Parenting Well-Being Gap: The Role of Dynamic Features of Daily Life across Broader Social Contexts. *Social Psychology Quarterly*, *83*(3), 207–228. https://doi.org/10.1177/0190272520902453

Nelson, S. K., Kushlev, K., & Lyubomirsky, S. (2014). The pains and pleasures of parenting: When, why, and how is parenthood associated with more or less well-being? *Psychological Bulletin*, *140*(3), 846–895. https://doi.org/10.1037/a0035444

Nomaguchi, K., & Johnson, W. (2016). Parenting Stress Among Low-Income and Working-Class Fathers: The Role of Employment. *Journal of Family Issues*, *37*(11), 1535–1557. https://doi.org/10.1177/0192513X14560642

Nomaguchi, K. M., & Brown, S. L. (2011). Parental strains and rewards among mothers: The role of education. *Journal of Marriage and Family*, *73*(3), 621–636. https://doi.org/10.1111/j.1741-3737.2011.00835.x

Novoa, C., Bustos, C., Bühring, V., Oliva, K., Páez, D., Vergara-Barra, P., & Cova, F. (2021). Subjective well-being and parenthood in chile. *International Journal of Environmental Research and Public Health*, *18*(14). https://doi.org/10.3390/ijerph18147408

Roskam, I., Brianda, M. E., & Mikolajczak, M. (2018). A step forward in the conceptualization and measurement of parental burnout: The Parental Burnout Assessment (PBA). *Frontiers in Psychology*, *9*(JUN). https://doi.org/10.3389/fpsyg.2018.00758

Ruppen, J., Waldvogel, P., & Ehlert, U. (2016). Implicit motives and men's perceived constraint in fatherhood. *Frontiers in Psychology*, *7*(NOV). https://doi.org/10.3389/fpsyg.2016.01856

Steele, H., Bate, J., Steele, M., Danskin, K., Knafo, H., Nikitiades, A., Dube, S. R., Bonuck, K., Meissner, P., & Murphy, A. (2016). Adverse childhood experiences, poverty, and parenting stress. *Canadian Journal of Behavioural Science*, *48*(1), 32–38. https://doi.org/10.1037/cbs0000034

Syrén, S. M., Kokko, K., Pulkkinen, L., & Pehkonen, J. (2020). Income and Mental Well-Being: Personality Traits as Moderators. *Journal of Happiness Studies*, *21*(2), 547–571. https://doi.org/10.1007/s10902-019-00076-z

Williams, D. T., Cheadle, J. E., & Goosby, B. J. (2015). Hard Times and Heart Break: Linking Economic Hardship and Relationship Distress. *Journal of Family Issues*, *36*(7), 924–950. https://doi.org/10.1177/0192513X13501666

Yan, X. (2022). Race, Socioeconomic Status, and Mothers' Parental Stress. *Society and Mental Health*, *12*(2), 99–118. https://doi.org/10.1177/21568693221091690