Child Ind Res (2016) 9:949–970
DOI 10.1007/s12187-015-9358-7

# How do Family Economic Contexts Affect Children's Subjective Well-Being? A Study of South Korea

**Joan P. Yoo**[1] · **Changyong Choi**[1]

Accepted: 20 December 2015 / Published online: 9 January 2016


**Abstract** The aim of this research is to examine the relationship between family economic contexts and children's subjective well-being using a child-centric perspective and to examine the mediation effects of basic psychological needs (peer relatedness and academic competence) based on self-determination theory. To investigate children's real life experiences, family economic contexts are measured by two indicators, income-to-needs ratio and Child Material Deprivation Index (CMDI). Subjective well-being is measured by Student's Life Satisfaction Scale (SLSS) and positive affect. A subsample of the South Korean data from the International Survey of Children's Well-being project (ISCWeB) is used for statistical analysis. The sample consists of 4403 10- and 12-year-old children. Structural equation modeling with bootstrapping is utilized to examine the direct and indirect effects of the analytic model. The results show that CMDI is significantly related to SLSS and positive affect. However, the coefficients between family income-to-need ratio and subjective well-being indicators are not statistically significant. The basic psychological needs (peer relatedness and academic competence) have significant effects on SLSS and positive affect. The indirect effects of CMDI and income-to-needs on subjective well-being, mediated by peer relatedness and academic competence, are statistically significant. The results suggest that CMDI may be a better indicator than family income when investigating children's subjective well-being, and that self-determination theory is applicable to studies on South Korean children's well-being. Based on the results, implications and recommendations are discussed.

**Keyword** Subjective well-being · Family income · Material deprivation · Self-determination theory

✉ Changyong Choi
choi.snuwelfare@gmail.com

[1] Department of Social Welfare, Seoul National University, Seoul, South Korea

## 1 Introduction

Subjective well-being has gained much attention in the past decade, which can be confirmed by the growing number of publications that compare subjective well-being of individuals around the world (Helliwell et al. 2015; Rees and Main 2014, 2015; UNICEF 2012). Unfortunately, these reports have repeatedly shown that South Korea is one of the unhappiest countries in the world (Kim 2015; Rees and Main 2015). What is more alarming is that South Korean children are identified as the unhappiest children in the world across multiple dimensions of subjective well-being (Lee and Yoo 2014; Rees and Main 2014, 2015). As a result, there is a growing interest in South Korea to understand the current state of children's subjective well-being, its determinants and their mechanisms.

South Korea is a country known for rapid and successful economic development and high achievement in education among children and adolescents. However, rapid economic development has been accompanied by increased economic inequality, which is quite concerning (Kim 2013). The widening gap in economic inequality affects children's well-being not only by limiting children's access to essential material goods necessary for their development, but also by creating unequal opportunities to gain competency and capabilities. According to the 2014 Private Education Expenditures Survey of the national statistical office, 68.6 % of children in South Korea (Elementary school: 81.1 %, Middle school: 69.1 %, High school: 49.5 %) received private education and their families spent, on average, 210USD per month on private education (Statistics Korea 2015). In this context, Korean children from low-income families are at a disadvantage in their academic achievement and development due to the heavy reliance of current Korean education system on private education. Moreover, numerous international and Korean studies have reported the negative impacts that low-income and poverty have on children's developmental outcomes like peer relationship and happiness (Conger et al. 2010; Ku et al. 2009; Maholems and King 2012; Min and Lee 2015).

However, less is known about the impact of family economic contexts on children's subjective well-being. In addition, previous studies in Korea have largely focused on family income which may not truly represent children's economic experiences. Researchers who found a significant relationship between family economic contexts and children's subjective well-being have suggested the importance of using child-reported indicators when measuring their economic experiences (Bradshaw and Main 2012; Main 2014; Sarriera et al. 2014). However, to the best of our knowledge, no study in South Korea has investigated the effect of family economic conditions on children's subjective well-being using a child-reported measure of material deprivation. Thus, we will address this gap in the literature by examining the effects of family income and child-reported measure of material deprivation on children's subjective well-being.

Further, to identify the mechanism of the relationship between family economic condition and children's subjective well-being and make implications, we sought to examine mediators. According to the self-determination theory, deep satisfaction of three basic psychological needs, autonomy, relatedness, and competence, is a prerequisite for achieving one's well-being (Dehaan and Ryan 2014). However, previous literature has indicated that low economic condition hinders children's peer

relationships and academic achievement, and further subjective well-being (Furlong et al. 2009; Gross-Manos 2014). Thus, this study examines the mediation effect of peer relatedness and academic competence.

In sum, the aim of this study is to identify how family's economic contexts are associated with children's subjective well-being using children's life satisfaction and positive affect as dependent variables. Careful attention is paid to identify the differential effects of family income and material deprivation on children's subjective well-being. Based on self-determination theory, the mediating effects of peer relatedness and academic competence are also examined.

## 2 Theoretical Background

### 2.1 Children's Subjective Well-Being

There is growing interest in conducting research on positive indicators among social scientists. Particularly, happiness, regarded as one of the most representative indicators of positive status, has recently gained much attention. Happiness studies in social science are mainly based on two philosophical traditions: eudaimonic and hedonic (Kashdan et al. 2008; Main 2014; Ryan and Deci 2001; Steger et al. 2008). Eudaimonia, which is heavily based on Aristotle's idea, refers to a life lived to its fullest potential (Ryan and Deci 2001). Theories on eudaimonia assert that people inherently endeavor to do worthwhile things for life, thus well-being is attained by satisfying basic psychological needs (Kashdan et al. 2008). On the other hand, hedonic theorists focus on how person feels and experiences pleasantness in one's life (Diener 2000). From a hedonic perspective, subjective well-being, one of the most frequently used concept of hedonic happiness, consists of three components—presence of life satisfaction and positive affect, and absence of negative affect (Diener 2000). Life satisfaction refers to cognitive appraisal of well-being, and positive and negative affect refer to emotional well-being.

The relationship between eudaimonic happiness and hedonic happiness can be explained by self-determination theory. According to the self-determination theory, eudaimonic well-being is attained by satisfying three basic psychological needs (autonomy, relatedness, and competence), and one can experience hedonic happiness (i.e., subjective well-being) through the satisfaction of these psychological needs (Dehaan and Ryan 2014; Kashdan et al. 2008). In reviews by Ryan and Deci (2001) as well as Ryff and Singer (1998), the theoretical assumption that satisfaction of basic eudaimonic psychological needs make people more hedonically happier was supported in various empirical studies. Based on the theory, three basic psychological needs can be defined as the following: First, autonomy is defined as "the need to experience behavior as self-endorsed and volitional" (Dehaan and Ryan 2014, p. 40). Second, relatedness is defined as "the need to feel connected and significant to others" (Dehaan and Ryan 2014, p. 40). Lastly, competence is defined as "capability and effectiveness with the important activities one engages in life" (Dehaan and Ryan 2014, p. 40). In sum, self-determination theory suggests that one can experience happiness if these psychological needs are satisfied. Satisfaction of these basic psychological needs means that one is fully functioning and is in the process of integrative self-regulation (Dehaan and Ryan

2014). Several studies have been conducted to examine the link between the three basic psychological needs and subjective well-being. Particularly, studies have shown that strong links between satisfaction of the basic psychological needs and increase in positive affect and decrease in negative affect (Howell et al. 2011; Ryan et al. 2010; Sheldon et al. 1996).

### 2.2 Children's Subjective Well-Being and Family's Economic Contexts

The economic conditions of family have been identified numerously as a key context for child development. It is generally accepted that children living in poverty and low family social economic status (SES) experience more developmental problems and adversities, have significantly lower positive outcomes, and have worse prospects for future (Conger et al. 2010; Maholems and King 2012). Specifically, a body of research using rigorous methodologies have demonstrated the significant long lasting influences of family economic indicators on children's cognitive and emotional development. These studies reported that low family SES impacted various aspects of children's lives, which leads to disparities from early childhood to adolescence, ranging from cognitive and non-cognitive development, to physical and mental health outcomes (Conti and Heckman 2014). Similar findings have also been reported in Korea. Korean longitudinal studies noted that Korean youths in poverty showed more internalizing and externalizing behavior problems, lower academic achievement, and lower levels of cognitive development (Ku et al. 2009; Min and Lee 2015). Specifically, the initial gaps in children's outcome between poor and non-poor Korean children have been found to persist throughout childhood, resulting in socioeconomic disparities in adulthood (Min and Lee 2015).

However, most previous studies have focused on negative outcomes such as behavioral, social and emotional problems. Less attention has been paid to positive outcomes (Ben-Arieh 2005; Seligman and Csikszentmihalyi 2000). Previously, researchers equated absence of negative problems with wellness or health. However, there have been changes in perspectives where presence of positive outcomes are no longer equated with absence of negative outcomes, but they are considered independent of each other (Ben-Arieh 2005). Moreover, in child development research, commonly used indicators of child development are indicators of well-becoming, which focus on how well a child will grow-up to be productive and successful adults, rather than indicators of well-being, focusing on their present quality of life (Ben-Arieh 2010). As a result, research on children's well-being and its predictors are at a relatively earlier stage of research compared to other developmental outcomes. Furthermore, mechanisms underlying the relationship between family economic contexts and children's subjective well-being are not fully investigated.

Theoretically, family economic contexts are expected to be associated with children's subjective well-being. Subjective well-being is grounded in one's life events, one's affect, and evaluation of such experiences (Diener 2000). Children from low-income families have repeatedly been found to experience more negative life events with greater severity and chronicity (Griggs and Walker 2008; Maholems and King 2012). When one has more negative experiences, it is more likely that he or she will exhibit lower subjective well-being than those who do not have these negative experiences.

However, the findings from previous literature that examines the link between family income and children's subjective well-being have not been consistent (Main 2014). For example, several studies did not find a significant association between family income and subjective well-being using a nationally representative samples of children from UK (Knies 2011; Main 2014). Korean studies have reported mixed results about the effect of family economic contexts on children's subjective well-being. Kim (2013) analyzed the effect of poverty on several domains of child well-being (UNICEF 2012) using Korean micro data, and the results showed that children in poverty showed lower well-being in every domains of child well-being including subjective well-being. However, Suh and Jung (2014) reported that the significance of family income on children's subjective well-being disappeared when other personal and contextual variables were also considered. Another study indicated that there was no direct impact of family income, but, income impacted subjective well-being indirectly through children's self-perspectives (Sung and Kim 2013).

One of the major issues in child poverty research is measurement of children's economic context that adequately reflects children's economic contexts and experience. Family income has been a traditional indicator of children's economic status. It is a relatively simple and objective measure that has been widely used. However, there have been several criticisms on the effectiveness of family income in illustrating the economic conditions of children (Main and Bradshaw 2012; Remond 2014). First, it is an indirect method to measure living standards and economic experiences (Redmond 2014). Although family income provides useful information on family's economic conditions, it does not take into account key factors that could also affect a family's economic situation such as family's assets and savings, non-cash income, and differential needs (Perry 2002). Second, family income has also been criticized for its limitations in illustrating children's economic experience since family income measure does not show intra-family distribution of economic resources (Main and Bradshaw 2012).

As a complementary measure to family income, poverty researchers have explored the utility of material deprivation (Beverly 2000; Iceland and Bauman 2007). Measures of material deprivation have several strengths over family income. First, material deprivation may better reflect the economic resources that family can use to access goods and services (Beverly 2000). Second, the experiences of deprivation may have a greater impact on happiness than income itself (Dunn et al. 2011). For example, although children may be less aware of their family's financial situation, they may be more sensitive to the necessities that their family can afford or not afford (Knies 2011). Third, scholars have suggested that the inclusion of material deprivation measure in poverty research provides additional information regarding family's economic circumstances and creates a better measure that reflects the multidimensional characteristic of poverty (Nolan 1999; Willitts 2006).

More recently, there has been discussion over whose report of material deprivation is more useful in understanding children's experiences of family economic circumstances. While the vast majority of studies have utilized measures of family income and material deprivation reported by parents or adult family members, a few scholars have questioned the effectiveness of adult-derived measures of family economic conditions in understanding children's subjective well-being (Main 2014). Particularly, this issue is highlighted by significant finding of existing researches that child-reported measures

were more proper than adult-reported measures to explain children's subjective well-being (Knies 2011; Main and Bradshaw 2012; Sarriera et al. 2014).

Despite the strengths of including measures of material deprivation as a complementary measure to family income, there have only been a hand full of South Korean studies utilizing material deprivation as an indicator in relation to child development and well-being (Jung 2013a, b; Yoo et al. 2015). Moreover, to the best of our knowledge, this is one of the first studies to utilize child-reported measure to assess children's experience of material deprivation and to examine how material deprivation is associated with children's subjective well-being. The specific focus on understanding the effects of adult-reported family income and child-reported child material deprivation on children's subjective well-being is expected to help us better understand the discrepancies reported in previous findings and its relevance to South Korean children.

In terms of subjective well-being, there is also some evidence that family economic conditions may have differential effect on the cognitive appraisal of subjective well-being and the positive and negative affect associated with subjective well-being (Diener et al. 2010; Kahneman and Deanton 2010). For example, the results of Diener et al. (2010) study, in which the effects of material prosperity on life evaluation and emotional well-being were analyzed using the Gallup World Poll, reported that income was a moderately strong predictor of life evaluation but a much weaker predictor of positive and negative feelings. Kahneman and Deanton (2010) found that income had differential effects on each emotional well-being indicators and Cantril's ladder, a life satisfaction indicator. According to this study, income had a stronger relationship with life satisfaction than emotional well-being (Kahneman and Deanton 2010). Based on previous literature, we are also examining the effects of family economic contexts on each respective aspects of subjective well-being, life satisfaction and positive affect.

### 2.3 Mediating Effects of Peer Relatedness and Academic Competence

It is not enough to just identify simple relationships between family's economic contexts and subjective well-being. For further implications, mechanisms that link the relationships should also be investigated (Cummings 2000). As self-determination theory suggested, satisfaction of basic psychological needs (e.g., autonomy, relatedness, and competence) may explain the pathways between family's economic contexts and subjective well-being. This theoretical hypothesis is supported by Diener et al. (2010) who suggest that fulfillment of psychological needs mediates the relationship between life satisfaction as well as emotional well-being and wealth. Empirical studies have also shown that low family social economic status is related to children's low academic achievement and negative peer relationship, which in turn hamper their subjective well-being (Furlong et al. 2009; Gross-Manos 2014).

Children in low family SES have difficulties in achieving academic competence and establishing good peer relationship which comprise basic needs for them (Griggs and Walker 2008; Maholems, and King 2012). There is accumulating evidence that children from low-income families have lower academic achievement (Haveman and Wolfe 1995; Ku, Park, and Jung 2006). According to human capital theory, parents with low income reduce the educational investment for children because of the high opportunity

cost, and this low investment leads to children's low cognitive development and low academic achievement (Becker, and Tomes 1994). Children with low academic achievement, affected by family income, are more likely to have unmet psychological needs in relation to academic competence. This, in turn, may hinder his or her subjective well-being. Literature supports the negative relationship between low academic achievement and children's well-being (Gilman and Heubner 2006; Suldo et al. 2006; Quinn and Duckworth 2007).

Also, children from low-income families are also at a greater risk for experiencing social problems, particularly with their peers (McLoyd 1998a, b). Peer acceptance and good friendship have been identified as indicators that significantly affect children's well-being (Bradshaw et al. 2007; Gross-Manos 2014). Children's experience of economic hardship may have a direct influence on children's needs for peer relatedness. For example, the culture of materialism and consumption that most developed countries face creates a social environment where consuming and accessing material goods is key to children's social integration (Brusda and Frønes 2014). On the other hand, lack of resources and material deprivation are linked with social exclusion (Redmond 2014). In a qualitative study that examined children's experience of material deprivation, children who experienced material deprivation were more likely to report that they felt social exclusion and more frequently experienced bullied by other peers than their peers who do not experience material deprivation (Ridge 2002).

Based on the review of previous literature, this study seeks to identify how family economic contexts are associated with children's life satisfaction and positive affect. To overcome the limitations of family income as an effective measure of child's economic condition, this study will test the effects of family income and material deprivation simultaneously. In addition, the mediating effects of peer relatedness and academic competence are examined based on self-determination theory,

## 3 Methods

### 3.1 Data

For the purpose of this study, we utilized a subsample of the South Korean data from the International Survey of Children's Well-Being (ISCWeB). ISCWeB is an international study that seeks to understand children's perceptions and evaluations of their well-being in 15 countries (Rees and Main 2015). Each country's data consist of a large scale representative sample of children in three separate age groups, approximate ages of 8, 10, and 12, and their parents. In 2013 fall, nationally representative data of South Korean children and their parents were collected using multi-cluster random sampling method. First, schools from 16 administrative regions in South Korea were randomly selected. Then, one or two classes from grades that mostly consist of children in respective ages were selected. Both parents and children were provided with written informed consent. Those who provide consent were included in the study. The entire study procedure was approved by the Institutional Review Board of Seoul National University.

The present study utilized a subsample of ISCWeB South Korea data. The data collected from 8-year-olds were not included in this study because some of the key variables were not measured for this age group. Cases with missing information on family income and size (611 of whole 5014 (12.2 %) elements) among children aged 10 and 12 were also excluded. Statistical tests (*t*-test) were conducted to identify mean differences between income missing group and non-missing group.[1] There was no significant differences of subjective well-being and other social economic status measurements. Regression imputation method is used to substitute other missing values. The rate of missing values for all observed variables (excluding family income and size) are less than 1.0 %, except a variable of peer relatedness (I have enough friends), which has 1.7 % of missing.

Finally, statistical analyses are completed using data of 4403 children aged 10, and 12. Specifically, the sample consists of 2133 10-year-olds (48.4 %) and 2270 12-year-olds (51.6 %). In addition, there are 2116 boys (48.1 %) and 2287 girls (51.9 %) in this study.

## 3.2 Measurements

### *3.2.1 Independent Variables*

**Income-to-Needs Ratio** Family income is operationalized as income-to-needs ratio in this study. Although there are numerous studies that use family income or log-transformation of family income children's economic circumstance, lack of consideration for cost of living and family size has been suggested as a major limitation. Income to needs ratio represents family's economic well-being better than direct measures of family income (McLoyd 1998a, b). Thus, income-to-needs ratio is calculated with parent-reported monthly family income, number of household members, and 2013 national minimum cost of living for the purpose of this study. Family income is divided by the respective national minimum cost of living, which is based on the sample's family size. Income-to-needs ratio is usually converted into some strata as grouping variable (Dearing et al. 2001; Ku 2003; McLoyd 1998a, b). In this research, income-to-needs ratio is converted into 11 strata (0 to 10). Zero refers to elements whose family income-to-needs ratio is under 1, one refers to elements whose family income-to-needs ratio is greater or equal to 1 and under 2, and ten refers to elements whose family income-to-needs ratio is greater and equal to 10.

**Material Deprivation** Material deprivation is measured by Child Material Deprivation Index (CMDI) developed by Main and Bradshaw (2012). This index contains 10 items related to children's everyday lives. Items include 'pocket money', 'saving money', 'branded trainers', 'iPod or similar', 'cable or satellite TV', 'garden or similar', 'access to family car', 'clothes to fit in', 'annual family holiday', and 'monthly day trips'. Children answered for each item in 3 categories, 'have', 'lack (want)', and 'lack (don't want)'. The reliability of original study was .72 and construct validity was tested (Main and Bradshaw 2012). Following the suggestions of original study, we measured

[1] Refer to appendix Table 5 for the result of *t*-test.

material deprivation by the number of lacked and wanted items. The reliability (Cronbach's alpha) of this sample was .766.

#### *3.2.2 Mediators*

**Peer Relatedness** Peer relatedness is measured using two items provided by the ISCWeB survey. The items include "My friends are usually nice to me", "I have enough friends." Children were asked to respond using a five-point Likert scale, which ranges from 1 (I do not agree) to 5 (totally agree). The reliability of this sample was .852.

**Academic Competence** Academic competence is measured using children's self-evaluation of their level of competence on key three subjects, 'Korean', 'English', and 'Mathematics.' They were asked to respond using a five-point Likert scale, which ranges from 1 (very bad) to 5 (very good). The reliability of this sample was .763.

#### *3.2.3 Dependent Variables*

**Life Satisfaction** Life satisfaction is measured using a four item scale. The four items are from the Students' Life Satisfaction Scale (SLSS; Huebner 1991), which are "My life is going well", "My life is just right", "I have a good life", and "I have what I want in life." Children were asked to respond using an eleven-point Likert scale, which ranges from zero (not at all agree) to ten (totally agree). The reliability of this sample was .959.

**Positive Affect** Positive affect is measured by the short version of Russell's core affect (Russell 2003, 2009; Children's worlds 2015) an indicator that assesses children's emotional well-being. Children were asked how much they have felt each of the following six affects, "satisfied", "happy", "relaxed", "active", "calm", and "full of energy", during the last 2 weeks. Children answered using an eleven-point Likert scale, which ranges from zero (not at all) to ten (extremely). The reliability of this sample was .942.

### 3.3 Data Analysis

To test the differential effects of family income and material deprivation on children's subjective well-being, the analytic model for SEM analysis is specified as Fig. 1. Indicators of family income-to-needs ratio and material deprivation, considered as independent variable, are included as observed variables. On the other hand, the two dependent variables (i.e., life satisfaction and positive affect) are specified as latent constructs. As suggested by the self-determination theory, latent variables of peer relatedness and academic competence are considered as mediators. SEM is analyzed using a three-step process. First, the measurement model is fitted to

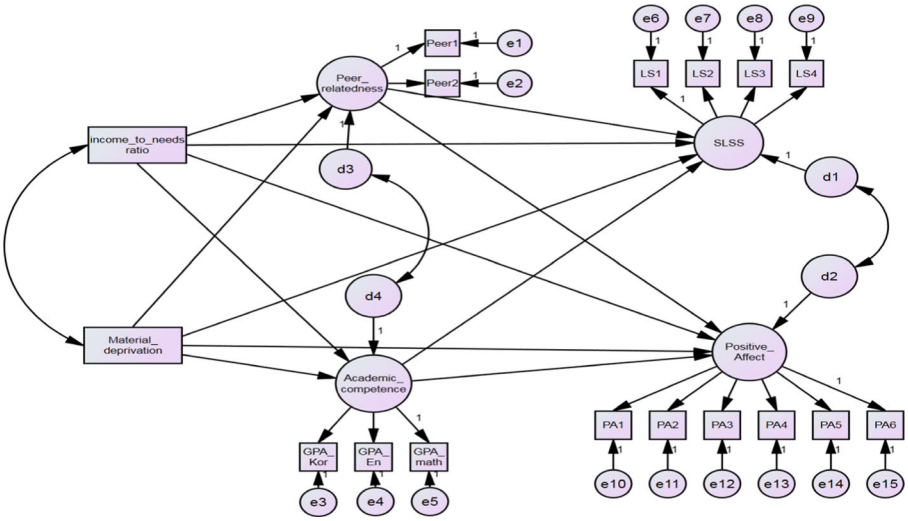


**Fig. 1** Research Model

examine whether latent constructs are adequately constructed. Second, structural model is fitted to examine the associations between observed and latent constructs. Third, the mediation effect will be examined using bootstrapping. For bootstrapping, Maximum Likelihood estimation procedure is used after employing regression imputation for missing data. Statistical analysis is performed with the SPSS 20 and AMOS 20.

## 4 Results

### 4.1 Descriptive Analysis

First, descriptive statistics are reported. The mean and standard deviation of 11 strata-converted income-to-needs ratio are 2.55 and 2.02. The average number of lacked materials that children wanted are 1.59 (SD = 1.657). The mean of two mediators, peer relatedness and academic competence, are 4.10 and 3.66, respectively. On the other hand, the mean values of life satisfaction and positive affect, are 7.74 and 7.78. As there is no variable whose absolute value of the skewness exceeds 3 nor kurtosis 10, the assumptions for normal distribution are considered to be met (Kline 2011).

Secondly, bivariate relationships between the independent variables (i.e., income-to-needs ratio strata & material deprivation) and the dependent variables (i.e., life satisfaction and positive affect) are examined.[2] The results show that as the number of deprived items increases, the mean of life satisfaction and positive affect decreases. On the contrary, income-to-needs ratio does not seem to have any specific relationship with two indicators of children's subjective well-being. As

[2] Detailed mean values of life satisfaction and positive affect based on income-to-needs ratio strata and number of respective material deprivation are provided in the appendix Table 7 and 8, and Fig. 2 to 5.

shown in the bar charts, statistical tests indicate that material deprivation has stronger relationship with subjective well-being than income does. In ANOVA tests, F statistics of SLSS according to income-to-needs ratio groups is significant ($F = 3.915$, $p < .01$). But, post-hoc result shows that mean differences only exist between the group of children living under the national criteria for minimum cost of living and other income groups. On the other hand, the F statistics of SLSS according to CMDI groups is significant ($F = 35.754$, $p < .01$), and mean differences generally exist among various groups. Same pattern is identified in ANOVA test of positive affect according to income groups ($F = 3.401$, $p < .01$), and to CMDI groups ($F = 28.828$, $p < .01$). Mean differences among income groups just exist between the group of children living under the national criteria for minimum cost of living and other income groups.

Table 1 shows the descriptive statistics of the major variables. And Table 2 shows the correlation coefficients among mean scores of major variables. The absolute values of correlation coefficients between CMDI and SLSS ($r = -0.266$), and positive affect ($r = -0.241$) are bigger than those between income-to-needs ratio and SLSS ($r = 0.65$), and positive affect ($r = 0.052$). In sum, a series of descriptive analyses suggest that CMDI is more associated with children's subjective well-being than family income-to-ratio.

To examine the relationship between family economic contexts and children's subjective well-being with greater statistical rigor, we employed SEM analysis as presented in the following section.

### 4.2 Structural Equation Modeling Analysis

First, the measurement model is fitted to examine whether the latent constructs are adequately specified. The model fit indices are as follows; $\chi^2 = 1878.603$(df = 84, $p < .001$), CFI = .970, TLI = .962, and RMSEA = .070(.067–.072). Though $\chi^2$ statistics is statistically significantly different, considering large size sample of this study, other model fit indices are acceptable according to generally suggested standards, CFI and TLI greater than 0.9 and RMSEA of 0.07 (Hair et al. 2006). In addition, the standardized factor loadings for all the observed variables to respective latent constructs were acceptable, over 0.7 (Fornell and Larcker 1981).[3]

Second, structural model is also fitted using the analytic model displayed in Fig. 1. The model fit indices suggest that the structural model also has an acceptable model fit ($\chi^2 = 1994.936$(df = 136, $p < .001$), CFI = .965; TLI = .956; RMSEA = .067). Table 3 shows the results of structural model analysis.

The strength of relationship between key independent and dependent variables and their statistical significance are presented in Table 1. The findings suggests that when family income and children's evaluation of material deprivation are considered simultaneously, the effects of the two family economic context variables have differential effects on children's subjective well-being. To be specific, a significant and direct association between material deprivation and children's subjective well-being is found. Analytic findings suggest that the increase in the number of deprived items decreases children's life satisfaction ($\beta = -.163$, $p < .001$) and positive affects ($\beta = -.141$, $p < .001$). However, family's income-to-needs ratio is not directly associated with

[3] Refer to appendix Table 6.

**Table 1** Summary of descriptive statistics ($N = 4{,}403$)

| | Mean | SD | Minimum | Maximum | Skewness (S.E.) | Kurtosis (S.E.) |
|---|---|---|---|---|---|---|
| Income-to-needs ratio | 2.55 | 2.022 | .00 | 10.00 | 1.650 (.037) | 3.185 (.074) |
| Material deprivation | 1.59 | 1.657 | .00 | 10.00 | 1.661 (.037) | 4.066 (.074) |
| Academic competence | 3.66 | .892 | 1.00 | 5.00 | −.451 (.037) | −.209 (.074) |
| Peer relatedness | 4.10 | .859 | 1.00 | 5.00 | −.902 (.037) | .406 (.074) |
| Life satisfaction | 7.74 | 2.132 | .00 | 10.00 | −.888 (.037) | .183 (.074) |
| Positive affect | 7.78 | 2.051 | .00 | 10.00 | −.965 (.037) | .572 (.074) |

neither life satisfaction ($\beta = -.015$, $p = .309$) nor positive affect ($\beta = -.007$, $p = .581$) at the level of statistical significance.

In terms of the two basic psychological needs, peer relatedness and academic competence, both material deprivation and family income-to-needs ratio are found to have a significant effect on children's academic competence ($\beta = -.034$, $p < .001$; $\beta = .068$, $p < .001$, respectively). However, while a significant negative effect of material deprivation on peer relatedness is found ($\beta = -.094$, $p < .001$), the association between family income-to-needs ratio and peer relatedness is not significant ($\beta = .007$, $p = .230$). This finding suggests that there are differential effects of material deprivation and family income-to-needs ratio on children's basic psychological needs.

The direct effects of two basic psychological needs on two subjective well-being indicators are also examined. The analytic results indicate that the associations between these variables are statistically significant. Children with higher satisfaction of peer relatedness show higher level of life satisfaction ($\beta = 1.104$, $p < .001$) and positive affect ($\beta = 1.102$, $p < .001$). In addition, child with better evaluation of one's academic competence shows higher life satisfaction ($\beta = 0.607$, $p < .001$) and higher positive affect ($\beta = 0.411$, $p < .001$).

**Table 2** Correlation coefficients

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Income to needs ratio | 1 | | | | | |
| 2. Material deprivation | $-.106^{***}$ | 1 | | | | |
| 3. Academic competence | $.167^{***}$ | $-.183^{***}$ | 1 | | | |
| 4. Peer relatedness | $.038^{***}$ | $-.184^{***}$ | $.261^{***}$ | 1 | | |
| 5. SLSS | $.065^{***}$ | $-.266^{***}$ | $.340^{***}$ | $.473^{***}$ | 1 | |
| 6. Positive affect | $.052^{***}$ | $-.241^{***}$ | $.292^{***}$ | $.480^{***}$ | $.802^{***}$ | 1 |

$^{***}$ $p < .001$

**Table 3** Results of structural model analysis

| | | | Unstandardized | Standardized | S.E. | C.R. | *p* |
|---|---|---|---|---|---|---|---|
| Income-to-needs ratio | → | SLSS | −.015 | −.014 | .014 | −1.073 | .283 |
| Income-to-needs ratio | → | Positive Affect | −.007 | −.007 | .013 | −.554 | .580 |
| Material deprivation | → | SLSS | −.163 | −.131 | .017 | −9.726 | *P* < .001 |
| Material deprivation | → | Positive Affect | −.141 | −.122 | .016 | −8.875 | *P* < .001 |
| Income-to-needs ratio | → | Academic competence | .068 | .170 | .007 | 10.030 | *P* < .001 |
| Income-to-needs ratio | → | Peer relatedness | .007 | .019 | .006 | 1.178 | .239 |
| Material deprivation | → | Academic competence | −.093 | −.191 | .008 | −11.187 | *P* < .001 |
| Material deprivation | → | Peer relatedness | −.094 | −.199 | .008 | −12.235 | *P* < .001 |
| Academic competence | → | SLSS | .607 | .239 | .043 | 14.070 | *P* < .001 |
| Academic competence | → | Positive Affect | .411 | .174 | .040 | 10.191 | *P* < .001 |
| Peer relatedness | → | SLSS | 1.104 | .418 | .043 | 25.620 | *P* < .001 |
| Peer relatedness | → | Positive Affect | 1.102 | .449 | .042 | 26.013 | *P* < .001 |
| Income-to-needs ratio | ↔ | Material deprivation | −.106 | | | | *P* < .001 |
| d1 | ↔ | d2 | .772 | | | | *P* < .001 |
| d3 | ↔ | d4 | .293 | | | | *P* < .001 |
| Squared Multiple Correlation | | SLSS | .346 | | | | |
| | | Positive Affect | .327 | | | | |

Lastly, decomposition of effects with bootstrapping analysis are showed in Table 4. Though direct effects of income to needs ratio on life satisfaction ($\beta = -0.015$, $p > .05$) and positive effect ($\beta = -0.007$, $p > .05$) are not statistically significant, indirect effects mediated by peer relatedness and academic competence on life satisfaction ($\beta = 0.050$, $p < .01$) and positive affect ($\beta = 0.036$, $0 < .01$) are statistically significant. On the other hand, direct effects of material deprivation on life satisfaction ($\beta = -0.163$, $p < .01$) and positive effect ($\beta = -0.141$, $p < .01$) as well as indirect effects mediated by peer relatedness and academic competence on life satisfaction ($\beta = -0.160$, $p < .05$) and positive affect ($\beta = 0.036$, $p < .01$) are all

**Table 4** Decomposition of direct and indirect effects

| | Unstandardized | | | Standardized | | |
|---|---|---|---|---|---|---|
| | Direct effect | Indirect effect | Total effect | Direct effect | Indirect effect | Total effect |
| Income-to-needs ratio → SLSS | −.015 | .050*** | .035** | −.014 | .049 | .034 |
| Income-to-needs ratio → Positive affect | −.007 | .036** | .029** | −.007 | .038 | .031 |
| Material deprivation → SLSS | −.163*** | −.160*** | −.323** | −.131 | −.128 | −.260 |
| Material deprivation → Positive affect | −.141*** | −.141** | −.283** | −.122 | −.122 | −.245 |

** $p < .05$, *** $p < .01$

statistically significant. These results concur with self-determination theory's explanation that the satisfaction of basic psychological needs is essential element of subjective well-being (Dehaan and Ryan 2014).

## 5 Discussion

The aim of this study is to examine the effects of family economic contexts on South Korean children's subjective well-being, and to investigate the indirect effects of family economic contexts through peer relatedness and academic competence on subjective well-being based on the self-determination theory. The analytic results show that child-reported material deprivation has a stronger relationship, both directly and indirectly on children's subjective well-being than traditionally used family income-based measurement. Income-to-need ratio does not have significant direct effects on life satisfaction nor positive affect, but does have indirect effects through peer relatedness and academic competence. The satisfactions of psychological needs (i.e., peer relatedness and academic competence) are found to be significant explanatory factors for subjective well-being in accordance with the assumption of self-determination theory.

These results suggest some implications. First, this study is one of the first research in Korea that investigated the effects of child-reported material deprivation on their subjective well-being. The most common criticism of family income in child study is that it cannot reflect the with-in family distribution of income (Ashiabi and O'Neal 2007). In other words, family income has limitations on describing children's economic situation of daily lives. Thus, it is required to use a more child-centric measurement that is more relevant to children's real life experiences. Although there are growing interests among child researchers to better understand Korean children's subjective well-being, few studies have examined its link with child-reported material deprivation. The significant direct and indirect effects of child-reported material deprivation in this study highlights the importance of utilizing child-reported measures such as material deprivation, which better reflects children's experiences when investigating their economic conditions. These significant effects of child-reported material deprivation support similar findings from previous studies (Main 2014; Main and Bradshaw 2012).

Second, the findings from this study suggest the applicability of self-determination theory when trying to understand South Korean children's subjective well-being. Although autonomy is not included in this study due to the restriction of the data, the significant effects of academic competence and peer relationship show that satisfaction of basic psychological needs is a key element to achieving subjective well-being. The significant mediating effects of these psychological needs for both family income and material deprivation highlight the importance of considering these basic psychological needs as a prerequisite for achieving happiness. Recently, there are increasing interests in the study of happiness and positive indicator. However, children's positive outcomes are not static, but interplaying with environment and resources (Ben-Arieh 2010). Beyond stating state the status of happiness, researches are needed to contribute to building and maintaining children's positive outcomes. Theoretical understanding of the mechanisms might be a start line. Based on Aristotle's philosophical tradition, self-determination theory explains not only status of eudaimonic happiness and hedonic happiness but also

relation between them. Following empirical results of this study which support the theory, the validity of self-determination theory can be further examined.

Third, this study identifies again the significant influence of economic contexts on children's happiness. The significant direct effects of family economic contexts on basic psychological needs and their indirect effects on subjective well-being through basic psychological needs indicate that family economic contexts are key factors for both eudaimonic and hedonic happiness. South Korea is a country that has relatively good economic conditions and high academic achievement. Though, Korean children are less happy than children from other countries (Lee and Yoo 2014; Rees and Main 2014, 2015). A potential reason could be found in highly competitive and materialistic atmosphere in the society. Korean children have free and mandatory education till 9th grade, but a very competitive condition of education pushes children into private education. Over 90 % of Korean children have private education (Lee et al. 2015), but the degree and quality of private education vary widely according to economic condition. Financial burden of private education to get ahead in school is creating inequality in educational outcomes, and children from low-income families are less likely to be successful in school compared to their affluent counterparts (Ku et al. 2006, 2009). Moreover, the discrimination that Korean children face, based on their academic achievement, also creates challenges to establish good peer relationships. However, comparison of social hierarchy among peers is not limited to their academic achievement. It is also related to their ability to access material goods. Participation in and maintenance of social relationships may be influenced by economic resources among young people in consumer societies (Brusda and Frønes 2014). Chan and Prendergast (2007) suggest that confusion societies have a cultural tendency to use social comparison of goods as a way to locate one's position in the social hierarchy. This culture may also contribute to children's sensitivity to their possessions and enhance children's sense of relative deprivation. Thus, children should be satisfied with their basic psychological needs including peer relatedness and academic competence regardless of their economic conditions. In order to make children happier adults and government should endeavor to advocate children's rights and do their responsibilities.

In sum, the findings from this study highlight the importance of applying child-centric and capability-based perspectives to research, policies and services. As adults' perceptions of child well-being could be differ from children's own perception (Ben-Arieh 2010; Stuart and Jose 2012), it needs to measure economic contexts of children on a child-centric perspective (Sarriera et al. 2014). Also, policy makers need to re-examine what is the best interests of children. Most prior implications of studies and social policies have utilized a family-based strategy, where families are given financial aids to support their children. However, the findings from this study suggest that family-based financial assistance programs could partially enhance children's subjective well-being at best, and their goals could be achieved only when children have enough goods and experiences appropriate to their developmental stages. In other words, family economic conditions are related to children's capability to have good relationship with friends, to be competent in school, and further, to be happy. Amartya Sen (1999) argued that "the role of income and wealth –important as it is along with other influences- has to be integrated into a broader and fuller picture of success and deprivation. (p.20)" Income is important as means and resources for accessing necessary experiences to develop children's capability and fulfill their psychological needs.

According to an adult study, the experiences accessed by income were found to have a greater impact on happiness compared to income itself (Dunn et al. 2011). Although further studies are needed to examine this association on children, focusing on enabling children to obtain the necessary resources to develop their capabilities may be more effective in enhancing children's well-being than the current welfare assistance programs.

This study has some limitations. There was listwise deletion of 611 (12.2 %) elements who did not answer the family income and family size. Researchers judged that statistical data imputation is not appropriate, as income-to-needs ratio is a fundamental independent variable of this research. The statistics showed that there were no significant differences in other social economic indicators and subjective well-being indicators between missing and non-missing elements. However, the deletion might cause a loss of information and a decrease in statistical efficacy (King et al. 2001). Another limitation is that we were not able to fully test self-determination theory. Though self-determination theory suggests three basic psychological needs -autonomy, relatedness, and competence-, this research model does not consider autonomy since the ISCWeB dataset does not contain variable measuring autonomy. In the future research, it is needed to complement this limitation by empirically examining the whole theoretical model of self-determination theory. Lastly, this study measures academic competence by self-reported scale. The structural relationship among actual school marks and other variables is needed to be examined in the further study.

**Acknowledgments** The data used in this publication come from Korean data of the first wave of Children's Worlds: International Survey of Children's Well-Being (ISCWeB, www.isciweb.org). The views expressed here are those of the authors. They are not necessarily those of ISCWeB. The collection of Korean data was supported by the Save the Children Korea. This research was supported by Brain Korea 21 Plus team of Department of Social Welfare, Seoul National University.

## Appendix

**Table 5** Results of statistical test for income missing sample

| | | Mean | S.D | t-value |
|---|---|---|---|---|
| Life satisfaction (SLSS) '0 = not at all ~ 10 = totally' | Income missing | 7.58 | 2.206 | 1.610 $^{n.s}$ |
| | Non-missing | 7.73 | 2.143 | |
| Positive affect '0 = not at all ~ 10 = extremely' | Income missing | 7.70 | 2.119 | 0.876 $^{n.s}$ |
| | Non-missing | 7.78 | 2.056 | |
| Number of participants in economic activities of family | Income missing | 1.64 | 0.681 | 0.103 $^{n.s}$ |
| | Non-missing | 1.63 | 0.609 | |
| Receiving government financial aid '0 = no / 1 = yes' | Income missing | .057 | 0.233 | 1.788$^{n.s}$ |
| | Non-missing | .039 | 0.192 | |
| Children's worrying about family money '1 = never / 4 = always' | Income missing | 1.87 | 0.824 | 0.757$^{n.s}$ |
| | Non-missing | 1.85 | 0.773 | |

**Table 6** Correlation of variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Income-to-needs ratio | 1 | | | | | | | | | | | | | | | | |
| 2. CMDI | −.106*** | 1 | | | | | | | | | | | | | | | |
| 3. peer1 | .028 | −.182*** | 1 | | | | | | | | | | | | | | |
| 4. peer2 | .042*** | −.162*** | .744*** | 1 | | | | | | | | | | | | | |
| 5. GPA_Kor | .097*** | −.144*** | .202*** | .199*** | 1 | | | | | | | | | | | | |
| 6. GPA_En | .168*** | −.161*** | .207*** | .219*** | .517*** | 1 | | | | | | | | | | | |
| 7. GPA_math | .141*** | −.148*** | .179*** | .202*** | .506*** | .544*** | 1 | | | | | | | | | | |
| 8. LS1 | .054*** | −.246*** | .440*** | .425*** | .305*** | .266*** | .276*** | 1 | | | | | | | | | |
| 9. LS2 | .049*** | −.240*** | .421*** | .411*** | .287*** | .255*** | .271*** | .910*** | 1 | | | | | | | | |
| 10. LS3 | .070*** | −.244*** | .436*** | .415*** | .295*** | .256*** | .269*** | .874*** | .895*** | 1 | | | | | | | |
| 11. LS4 | .072*** | −.275*** | .402*** | .387*** | .257*** | .233*** | .233*** | .802*** | .819*** | .831*** | 1 | | | | | | |
| 12. PA1 | .061*** | −.225*** | .432*** | .420*** | .253*** | .231*** | .245*** | .748*** | .758*** | .751*** | .706*** | 1 | | | | | |
| 13. PA2 | .052*** | −.231*** | .421*** | .408*** | .247*** | .208*** | .228*** | .746*** | .753*** | .751*** | .698*** | .904*** | 1 | | | | |
| 14. PA3 | .027*** | −.215*** | .369*** | .353*** | .199*** | .164*** | .184*** | .662*** | .676*** | .661*** | .628*** | .765*** | .779*** | 1 | | | |
| 15. PA4 | .051*** | −.203*** | .393*** | .401*** | .213*** | .202*** | .197*** | .641*** | .649*** | .648*** | .610*** | .743*** | .753*** | .745*** | 1 | | |
| 16. PA5 | .046*** | −.217*** | .376*** | .367*** | .246*** | .221*** | .226*** | .625*** | .630*** | .617*** | .581*** | .696*** | .692*** | .702*** | .657*** | 1 | |
| 17. PA6 | .041*** | −.188*** | .396*** | .412*** | .204*** | .190*** | .199*** | .639*** | .650*** | .638*** | .586*** | .724*** | .735*** | .698*** | .793*** | .624*** | 1 |

** $p < .05$, *** $p < .01$

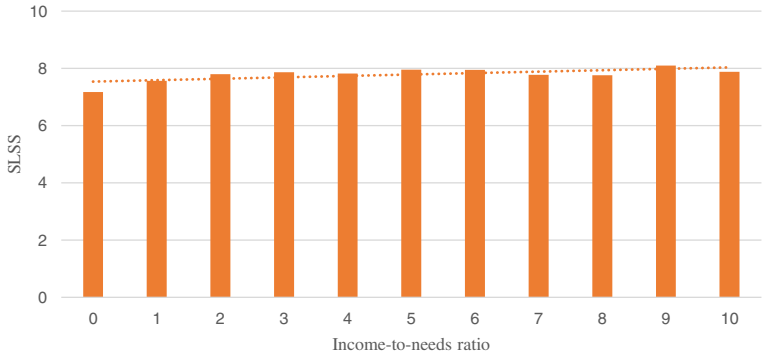


**Fig. 2** Relationship between income-to-needs ratio and life satisfaction

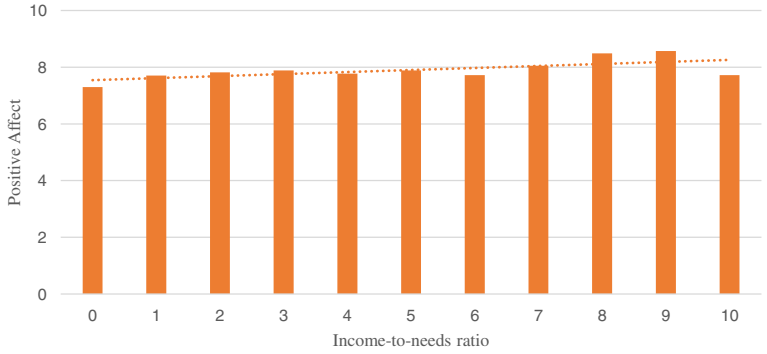


**Fig. 3** Relationship between income-to-needs ratio and positive affect

**Table 7** Relationship between income-to-needs ratio and subjective well-being

| Income-to-needs ratio | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 311 | 1176 | 1157 | 879 | 296 | 221 | 122 | 76 | 31 | 46 | 88 |
| SLSS | 7.17 | 7.57 | 7.80 | 7.87 | 7.82 | 7.96 | 7.95 | 7.78 | 7.76 | 8.10 | 7.88 |
| Positive Affect | 7.30 | 7.70 | 7.82 | 7.89 | 7.77 | 7.89 | 7.72 | 8.05 | 8.48 | 8.57 | 7.72 |

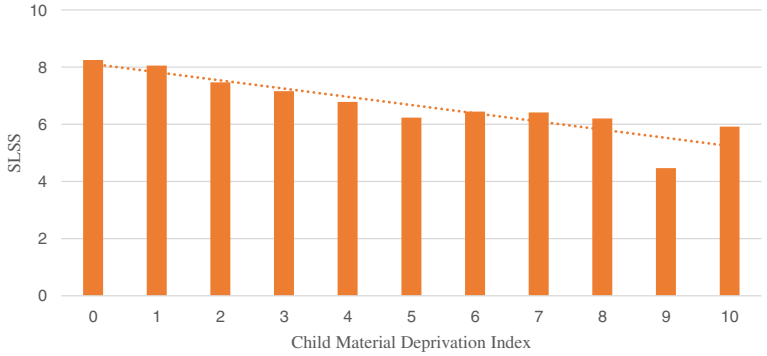


**Fig. 4** Relationship between material deprivation and life satisfaction

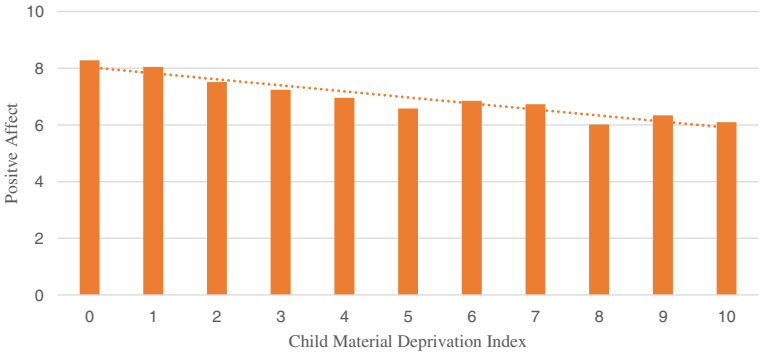


**Fig. 5** Relationship between material deprivation and positive affect

**Table 8** Relationship between material deprivation and subjective well-being

| No. of deprived | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1256 | 1288 | 820 | 497 | 254 | 111 | 66 | 23 | 16 | 7 | 21 |
| SLSS | 8.25 | 8.06 | 7.47 | 7.16 | 6.78 | 6.24 | 6.45 | 6.41 | 6.20 | 4.47 | 5.92 |
| Positive Affect | 8.28 | 8.05 | 7.51 | 7.24 | 6.96 | 6.58 | 6.85 | 6.72 | 6.01 | 6.33 | 6.10 |

**Table 9** Factor loading of observed variables

| | | | Unstandardized | Standardized | S.E. | C.R. | *p* |
|---|---|---|---|---|---|---|---|
| SLSS | ← | LS1 | 1.000 | .941 | – | – | – |
| SLSS | ← | LS2 | 1.075 | .958 | .008 | 136.534 | $P<.001$ |
| SLSS | ← | LS3 | 1.013 | .936 | .008 | 124.135 | $P<.001$ |
| SLSS | ← | LS4 | .976 | .864 | .010 | 94.963 | $P<.001$ |
| Positive Affect | ← | PA1 | 1.000 | .933 | – | – | – |
| Positive Affect | ← | PA2 | 1.001 | .938 | .008 | 118.867 | $P<.001$ |
| Positive Affect | ← | PA3 | .999 | .842 | .012 | 86.291 | $P<.001$ |
| Positive Affect | ← | PA4 | .915 | .830 | .011 | 83.221 | $P<.001$ |
| Positive Affect | ← | PA5 | .860 | .763 | .012 | 69.492 | $P<.001$ |
| Positive Affect | ← | PA6 | .918 | .808 | .012 | 78.200 | $P<.001$ |
| Academic Competence | ← | GPA_Kor | 1.000 | .703 | – | – | – |
| Academic Competnece | ← | GPA_En | 1.303 | .739 | .035 | 36.802 | $P<.001$ |
| Academic Competence | ← | GPA_math | 1.218 | .727 | .033 | 36.670 | $P<.001$ |
| Peer Relatedness | ← | Peer1 | 1.000 | .870 | – | – | – |
| Peer Relatedness | ← | Peer2 | 1.036 | .855 | .024 | 44.022 | $P<.001$ |

## References


Ashiabi, G. S., & O'neal, K. K. (2007). Children's health status: examining the associations among income poverty, material hardship, and parental factors. *PLoS One, 2*(9), e940.

Becker, G. S., & Tomes, N. (1994). Human capital and the rise and fall of families. In Becher, G. S. (Eds), *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (3rd Edition) (pp. 257–298). The University of Chicago Press.

Ben-Arieh, A. (2005). Where are the children? Children's role in measuring and monitoring their well-being. *Social Indicators Research, 74*(3), 573–596.

Ben-Arieh, A. (2010). From child welfare to children well-being: The child indicators perspective. In Kamerman, S. Phipps, S., & Ben-Arieh, A. (Eds), *From child welfare to child well-being, an international perspective on knowledge in the service of policy making*, 9–22. Springer.

Beverly, S. G. (2000). Using measures of material hardship to assess well-being. *Focus, 21*(2), 65–69.

Bradshaw, J., Hoelscher, P., & Richardson, D. (2007). An index of child well-being in the European Union. *Social Indicators Research, 80*(1), 133–177.

Brusdal, R., & Frønes, I. (2014). Well-Being and Children in a Consumer Society. In Ben-Arieh & J. E. Korbin (Eds.), *Handbook of Child Well-Being* (pp. 1427–1443). Netherlands: Springer.

Chan, K., & Prendergast, G. (2007). Materialism and social comparison among adolescents. *Social Behavior and Personality: an international journal, 35*(2), 213–228.

Children's worlds (2015). Country Reports; Secondary wave of data collection. Retrieved Aug. 2015 from http://www.isciweb.org/_Uploads/dbsAttachedFiles/NationalReports_Introduction_FINAL.pdf.

Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family process, and individual development. *Journal of Marriage and Family, 72*, 685–704.

Conti, G., & Heckman, J. J. (2014). Economics of Child Well-Being. In Ben-Arieh, F. Casas, I. Frønes, & J. E. Korbin (Eds.), *Handbook of child well-being* (pp. 363–401). Netherlands: Springer.

Cummins, R. A. (2000). Personal income and subjective well-being: a review. *Journal of Happiness Studies, 1*(2), 133–158.

Dearing, E., McCartney, K., & Taylor, B. A. (2001). Change in family income-to-needs matters more for children with less. *Child Development, 72*(6), 1779–1793.

DeHaan, C. R., & Ryan, R. (2014). Symptoms of wellness: Happiness and Eudaimonia from a self-determination perspective. In Sheldon & Lucas (Eds), *Stability of Happiness*, 37–55. Academic Press.

Diener, E. (2000). Subjective well-being: the science of happiness and a proposal for a national index. *Psychologist, 55*(1), 34.

Diener, E., Ng, W., Harter, J., & Arora, R. (2010). Wealth and happiness around the world: material prosperity predicts life evaluation, whereas psychological prosperity predicts positive feelings. *Journal of Personality and Social Psychology, 99*, 52–61.

Dunn, E. W., Gilbert, D. T., & Wilson, T. D. (2011). If money doesn't make you happy, then you probably aren't spending it right. *Journal of Consumer Psychology, 21*, 115–125.

Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.

Furlong, M. J., Gilman, R., & Huebner, E. S. (Eds.). (2009). *Handbook of positive psychology in schools*. Routledge.

Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35*(3), 293–301.

Griggs, J., & Walker, R. (2008). *The costs of child poverty for individuals and society: a literature rev*iew. Joseph Rowntree Foundation.

Gross-Manos, D. (2014). The role of peers in children's lives and their contribution to child well-being: Theory and research. In Ben-Arieh, F. Casas, I. Frønes, & J. E. Korbin (Eds.), *Handbook of Child Well-Being* (pp. 1843–1863). Netherlands: Springer.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* .Vol. 6. Upper Saddle River, NJ: Pearson Prentice Hall.

Haveman, R., & Wolfe, B. (1995). The determinants of children's attainments: a review of methods and findings. *Journal of Economic Literature, 33*(4), 1829–1878.

Helliwell, J. F., Layard, R., & Sachs, J. (2015). *World happiness report 2015*. Earth Institute, Columbia University.

Howell, R. T., Chenot, D., Hill, G., & Howell, C. J. (2011). Momentary happiness: the role of psychological need satisfaction. *Journal of Happiness Studies, 12*(1), 1–15.

Huebner, E. S. (1991). Initial development of the student's life satisfaction scale. *School Psychology International, 12*(3), 231–240.
Iceland, J., & Bauman, K. J. (2007). Income poverty and material hardship: how strong is the association? *The Journal of Socio-Economics, 36*, 376–396.
Jung, S. (2013a). The effects of material hardship on academic achievement: using the propensity score weight analysis. *Studies on Korean Youth, 24*(4), 149–175.
Jung, S. (2013b). The effects of material hardship on physical, social-emotional, cognitive development of adolescents: using the characteristics of types, intensity, timing, duration of material hardship. *Korean Journal of Social Welfare Studies, 44*(4), 229–259.
Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences, 107*(38), 16489–16493.
Kashdan, T. B., Biswas-Diener, R., & King, L. A. (2008). Reconsidering happiness: the costs of distinguishing between hedonics and eudaimonia. *The Journal of Positive Psychology, 3*(4), 219–233.
Kim, M. S., (2013). The Well-being of Children in Poverty and Income Support Policy. *Health and welfare policy forum, 206*(−), 35–47.
Kim, M. S., (2015). The subjective well-being of Korean children and its policy implication. *Health and welfare policy forum, 220*(−), 14–26.
King, G., Honaker, J., Joseph, A., & Scheve, K. (2001). Analyzing incomplete political science data: An alternative algorithm for multiple imputation. In *American Political Science Association* (Vol. 95, No. 1, pp. 49–69). Cambridge University Press.
Kline, R. B. (2011). *Principles and Practice of Structural Equation Modelling*. New York: Gilford Press.
Knies, G. (2011). Life satisfaction and material well-being of young people in the UK. In S. L. McFall & C. Garrington (Eds.), *Early findings from the first wave of the UK's household longitudinal study* (pp. 15–22). Colchester: Institute for Social and Economic Research.
Ku, I. H. (2003). *Economic Loss and Adolescents' Development: The Effect of Economic Strain on Adolescents' Educational Attainment*. Seoul: Jipmoondnag.
Ku, I. H., Park, H. S., & Jung, I. J. (2006). The effect of poverty on children's academic achievement. *Journal of Korean Council for Children and Right., 10*(3), 269–295.
Ku, I. H., Park, H. S., Jung, I. J., & Kim, K. H. (2009). A panel study on the relationship between poverty and child development. *Korean Journal of Social Welfare, 61*(1), 59–79.
Lee, B. J., & Yoo, M. S. (2014). Family, school, and community correlates of children's subjective well-being: an international comparative study. *Child Indicators Research, 8*(1), 151–175.
Lee, B. J., Kim, S., Ahn, J., Yoo, J., Yoo, M., Choi, C., & Ko, E. (2015). *A report on Korean Children's Quality of Life*. Seoul: Save the Children Korea.
Maholmes, V., & King, R. B. (Eds.). (2012). *The Oxford handbook of poverty and child development*. Oxford University Press.
Main, G. (2014). Child poverty and children's subjective well-being. *Child Indicators Research, 7*(3), 451–472.
Main, G., & Bradshaw, J. (2012). A child material deprivation index. *Child Indicators Research, 5*(3), 503–521.
McLoyd, V. C. (1998a). Socioeconomic disadvantage and child development. *American Psychologist, 53*(2), 185–204.
McLoyd, V. C. (1998b). Socioeconomic disadvantage and child development. *American Psychologist, 53*(2), 185.
Min, W. H., & Lee, B. J. (2015). A longitudinal study to examine the relationship between poverty and the internalization of problems in adolescence. *Studies on Korean Youth, 26*(1), 145–169.
Nolan, B. (1999). Targeting poverty. Lessons from Ireland on setting a national poverty target. *New Economy, 6*(1), 44–49.
Perry, B. (2002). The mismatch between income measures and direct outcome measures of poverty'. *Social Policy Journal of New Zealand, 19*, 101–127.
Quinn, P. D., & Duckworth, A. L. (2007). Happiness and academic achievement: Evidence for reciprocal causality. In *The Annual Meeting of the American Psychological Society* (pp. 24–27).
Redmond, G. (2014). Poverty and Social Exclusion. In Ben-Arieh, F. Casas, I. Frønes, & J. E. Korbin (Eds.), *Handbook of child well-being* (pp. 1387–1426). Netherlands: Springer.
Rees, G., & Main, G. (2014). *Findings from the first wave of data collection*. York: Children's Worlds Project (ISCWeB).
Rees, G., & Main, G. (2015). *Children's views on their lives and well-being in 15 countries: An initial report on the Children's Worlds survey, 2013–14*. York: Children's Worlds Project (ISCWeB).
Ridge, T. (2002). *Childhood poverty and social exclusion: From a child's perspective*. Policy press.

Russell, J. A. (2003). Core Affect and the psychological construction of emotion. *Psychological Review, 110*, 145–172.

Russell, J. A. (2009). Emotion, core affect, and psychological construction. *Cognition and Emotion, 23*, 1259–1283.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review Psychology, 52*, 141–166.

Ryan, R. M., Bernstein, J. H., & Brown, K. W. (2010). Weekends, work, and well-being: psychological need satisfactions and day of the week effects on mood, vitality, and physical symptoms. *Journal of Social and Clinical Psychology, 29*(1), 95–122.

Ryff, C. D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry, 9*, 1–28.

Sarriera, J. C., Casas, F., Bedin, L., Abs, D., Strelhow, M. R., Gross-Manos, D., & Giger, J. (2014). Material resources and children's subjective well-being in eight countries. *Child Indicators Research, 8*(1), 199–209.

Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: an introduction. *American Psychological Association, 55*(1), 5.

Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.

Sheldon, K. M., Ryan, R. M., & Reis, H. T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality and Social Psychology Bulletin, 22*, 1270–1279.

Statisics Korea. (2015). *Private education expenditures survey 2014*. Daejeon: Statisics Korea.

Steger, M. F., Kashdan, T. B., & Oishi, S. (2008). Being good by doing good: daily eudaimonic activity and well-being. *Journal of Research in Personality, 42*(1), 22–42.

Stuart, J., & Jose, P. E. (2012). The influence of discrepancies between adolescent and parent ratings of family dynamics on the well-being of adolescents. *Journal of Family Psychology, 26*(6), 858–868.

Suh, J. W., & Jung, Y. T. (2014). Comparison of influences of variables on subjective happiness in the youth: personal capability, family environment and school environment. *Korean Journal of Youth Studies, 21*(8), 265–292.

Suldo, S. M., Riley, K. N., & Shaffer, E. J. (2006). Academic correlates of children and adolescents' life satisfaction. *School Psychology International, 27*(5), 567–582.

Sung, E., & Kim, G. (2013). The structural relationships analysis among happiness, personal traits, and environmental traits of adolescents using the structural equation modeling. *Studies on Korean Youth, 24*(4), 177–202.

UNICEF. (2012). *Innocenti Report Card 11: Child well-being in rich countries; A comparative overview*. Florence: Unicef Innocenti Research Centre.

Willitts, M. (2006). *Measuring child poverty using material deprivation: possible approaches, No. 28*. London: Department for Work and Pensions.

Yoo, J., Chung, G., & Lee, S. G. (2015). The association between the latent classes of household economic deprivation experience and parent-reported measures of child health. *Korean Journal of Social Welfare Studies, 46*(1), 397–431.