



# Adolescents' subjective well-being: The role of adolescents' and mothers' time perspectivess

**Cornelia Măirean and  
Loredana R Diaconu-Gherasim**

Alexandru Ioan Cuza University, Romania

## Abstract

This study investigated the relations between adolescents' and their mothers' time perspectives and adolescents' subjective well-being. The sample included 104 adolescents (72.1% girls), aged between 15 and 17 years and their mothers ( $M = 42.67$ ,  $SD = 5.66$ ). Adolescents completed scales measuring their life events, time perspective, depressive symptoms and life satisfaction. Mothers also fill in a scale assessing their time perspective. The results showed that adolescents who reported higher levels of negative events in their life also reported higher levels of depressive symptoms and lower levels of life satisfaction. Moreover, adolescents' depressive symptoms were significantly positively associated with their past negative time perspective, but significantly negatively correlated with past positive time perspective. Further, adolescents' life satisfaction was negatively associated with their past negative but positively with past positive time perspectives. Concerning maternal time perspective, only fatalist present perspective was significantly negatively related with adolescents' life satisfaction. The findings provide evidence about the role of the adolescents' and mothers' time perspective in explaining the adolescents' subjective well-being.

## Keywords

Adolescent time perspective, mother time perspective, depressive symptoms, life satisfaction, adolescence

---

## Corresponding author:

Loredana R Diaconu-Gherasim, Department of Psychology, Alexandru Ioan Cuza University, 3 Toma Cozma, Iasi 700554, Romania.

Email: [gloreda@uaic.ro](mailto:gloreda@uaic.ro)

## **Introduction**

Subjective well-being, defined as the perception of quality of life at a given moment in time, represents a combination of relative absence of depression and high overall satisfaction with life (Ehrlich and Isaacowitz, 2002). Previous literature revealed that subjective well-being has important implication on adolescents' emotional development. Thus, depressive symptoms have been associated with low self-esteem and self-efficacy, behavioral problems, and poor academic performance (e.g. Kerr and Stattin, 2000; Needham, 2007). Further, life satisfaction has been related with good mental health and fewer risk-taking behaviors during adolescence (e.g. Gilman et al., 2008; Sun and Shek, 2010). Due to the high significance of subjective well-being in the adolescents' future development, the researchers continuously seek factors that could enhance adolescents' subjective well-being. Previous studies documented the negative relation of past life experiences with subjective well-being (i.e. increased level of depressive symptoms and decreased level of life satisfaction) in samples of adolescents (McCullough et al., 2000; Yue et al., 2016). However, few studies analyzed the relations between the other internal factors, as future time perspective, and subjective well-being in adolescents' samples (see Zambianchi and Ricci, 2012 for an exception). To advance in the literature, the relations of adolescents' past life events and time perspective with their subjective well-being were considered in this study. In addition, previous literature shows that subjective well-being in children and adolescents can be affected by parental attitudes, such as parental rearing practices (Jun and Choi, 2013). However, no study investigated how other parental factors, such parents' time attitudes, are related to adolescent subjective well-being. In order to fill this gap, in this study we evaluated how mother time perspective is related to adolescent's depressive symptoms and life satisfaction.

## **Adolescent life events and subjective well-being**

Adolescents are particularly vulnerable to negative experiences, including losing a close friend, trouble with classmates and police, or parents' divorce, and the exposure to adversity leading to cognitive difficulties, and behavioral and emotional disorders (see Hammen, 2016 for review). Previous literature has examined preponderantly the role of negative events on negative indicators of subjective well-being, including depressive symptoms, and results indicated positive relations between negative life events and internalizing symptoms of depression in adolescent sample (e.g. Barrocas and Hankin, 2011; Johnson et al., 2012; Kindt et al., 2015). Further, recent meta-analysis indicated that negative life events not only influence the

onset of depression, in adolescence, but also influence its recurrence and manifestations (Yue et al., 2016).

Previous studies have also explored the relation between negative life events and positive indicators of adolescents' emotional development, including life satisfaction. The results showed that adolescents who experience more negative life events are more likely to have lower levels of life satisfaction than those who have not shared similar difficulties (e.g. Garcia et al., 2011; Moksnes and Haugan, 2015). The negative relation between life satisfaction and negative life events was documented both for major life events and everyday stressors (see Proctor et al., 2009, for a review).

It is also important to note that previous studies addressing links between past experience and adolescents' subjective wellbeing relied on Western samples (e.g. USA, Germany or Norway). Very little is known regarding these associations in non-Western countries, including Eastern European countries. Considering that the relation between life events and adolescent well-being differs across cultural backgrounds (Yue et al., 2016), in order to enhance the literature, the first aim of the present study is to assess the role of negative life events in adolescents' depressive symptoms and life satisfaction in a Romanian adolescent sample. Specifically, we expected that adolescents' negative life events would be positively associated to their depressive symptoms and negatively related to their life satisfaction. It is also important to note that the Romanian society has experienced significant social changes after the fall of the communism which decreased individuals well-being and life satisfaction compared to those from West-European countries (Oishi et al., 2009).

## Adolescent time perspective and subjective well-being

Despite previous research revealing that objective life events are related to individual's level of subjective well-being (see Proctor et al., 2009, for a review), it was suggested that these relations are less strong than the cognitive evaluations of the events (Zhang and Howell, 2011). The cognitive evaluations of the personal events, also defined as time perspective, are used to give order, coherence and meaning to different life events (Zimbardo and Boyd, 1999, 2008). According to Zimbardo and colleagues' model (Zimbardo and Boyd, 1999, 2008), time perspective represents the attitudes and thoughts toward time and uses three time frames (past, present and future) for encoding, storing, and recalling experiences, as well as for forming expectations and goals. In addition, the model allows the differentiation among five dimensions assessing both positive and negative attitude toward past and present. The *past-negative* dimension contains a negative, pessimistic, and even traumatic view of the past, while the *past-positive* attitude

reflects a warm, pleasurable, and nostalgic attitude toward the past. Further, the *present-hedonistic* dimension reflects an orientation toward present enjoyment, a risk-taking attitude toward time and life, with little concern for future consequences. On the contrary, the *present-fatalistic* perspective reveals a fatalistic and hopeless attitude toward life and the future. Finally, the *future perspective* characterizes people who focus on future goals and on efforts to plan for achieving future objectives.

Most previous studies have investigated the relation between time perspective and adults' adjustment. The results revealed that past negative time perspective negatively correlated but past positive perspective positively correlated with positive mental health on samples of college students (e.g. Stolarski et al., 2014) and older adults (e.g. Vowinckel et al., 2015). Present fatalist was positively related to health-destructive behaviors, anxiety, and academic underachievement, whereas present hedonism was associated with more positive current mood, positive mental health, and risky behaviors on samples of youth adults (e.g. Daugherty and Brase, 2010; Stolarski et al., 2014; Vowinckel et al., 2015). Finally, future time perspective was positively associated with different health-promoting behaviors and adaptive coping (e.g. Blomgren et al., 2016; Daugherty and Brase, 2010). Similar findings were reported in fewer studies conducted in adolescent sample. Specifically, present fatalist was positively related to health-destructive behaviors and academic underachievement (Laghi et al., 2012). Further, present hedonism and future time perspectives were associated with more adaptive coping and less maladaptive coping (Blomgren et al., 2016).

Recent studies investigated how time perspective is related to subjective well-being. The results showed that past negative and present-fatalistic time perspectives were positively associated with high levels of depressive symptoms on samples of college students (Zhang and Howell, 2011; Zimbardo and Boyd, 1999) and older adults (Desmyter and De Raedt, 2012). Further, present hedonist was positively associated whereas past positive and future time perspectives were negatively associated with depressive symptoms, on samples of undergraduate students (Chin and Holden, 2013; Zimbardo and Boyd, 1999), and adults (Chang et al., 2013). However, other studies reported that past positive, present hedonist, and future time perspectives were not associated with depressive symptoms on samples of old adults (Desmyter and De Raedt, 2012).

There is only one study that explored the relation between time perspective and subjective well-being in adolescent sample. The results indicated that the adolescents' depressive symptoms were positively associated with present hedonist, but negatively with past positive time perspectives (Hamilton et al., 2015).

Studies exploring the relation between time perspective and life satisfaction were also mostly conducted on adult samples. The findings have showed that a past negative time perspective was associated with a lower level of life satisfaction, and a past positive time perspective was related to a high level of life satisfaction (e.g. Boniwell et al., 2010; Desmyter and De Raedt, 2012; Sobol-Kwapinska, 2016; Sobol-Kwapinska and Jankowski, 2016; Zhang et al., 2013). For the other dimensions of time perspective, mixed results were found. Specifically, some studies showed that participants with a present hedonistic time perspective reported increased life satisfaction (e.g. Boniwell et al., 2010; Zhang and Howell, 2011; Zhang et al., 2013). On the contrary, other studies found a non-significant association (e.g. Desmyter and De Raedt, 2012; Sobol-Kwapinska, 2016; Sobol-Kwapinska and Jankowski, 2016; Stolarski et al., 2014). Further, present fatalist was negatively related to life satisfaction (Sobol-Kwapinska, 2016; Sobol-Kwapinska and Jankowski, 2016; Zhang et al., 2013) or manifested a nonsignificant association (e.g. Desmyter and De Raedt, 2012). Finally, some studies found that future time perspective was not related with life satisfaction (e.g. Desmyter and De Raedt, 2012; Stolarski et al., 2014). However, two recent studies reported a positive association between future time perspective and life satisfaction (Sobol-Kwapinska, 2016; Sobol-Kwapinska and Jankowski, 2016).

Fewer studies investigated the relation between time perspective and life satisfaction on adolescent sample. The results have evidenced that negative past and fatalistic present time perspectives were negatively related to satisfaction with life, while positive past perspective was positively associated with life satisfaction (e.g. Laghi et al., 2016; Orkibi and Dafner, 2016). Concerning hedonistic present, one study reported a positive association with life satisfaction (Laghi et al., 2016), whereas another study found a non-significant relation (Orkibi and Dafner, 2016). Finally, future perspective was positively related to life satisfaction and social subjective well-being in adolescence samples (Laghi et al., 2016; Orkibi and Dafner, 2016; Zambianchi and Ricci, 2012).

Most of previous studies in adolescent samples were conducted in Western countries (e.g. Italy or US; Hamilton et al., 2015; Laghi et al., 2016). Few studies investigated the relation on non-Western adolescent samples (i.e. Israeli; Orkibi and Dafner, 2016). To our knowledge, there is no study investigating these relations on non-Western adolescent sample from East European countries. In order to bring new evidence about the link between time perspective and subjective well-being, the second aim of the present study was to assess the relation between time perspective and depressive symptoms and life satisfaction in a Romanian adolescent sample. We expected that negative past and fatalistic present to be positively related

to depression and negatively related to life satisfaction. Moreover, positive past, hedonistic present and future time perspectives are expected to be negatively related to depressive symptoms and positively associated with life satisfaction.

## **Mother time perspective and adolescent subjective well-being**

Parents are significant figures during adolescence, influencing their children's subjective well-being through their beliefs and rearing cognitions (see Laursen and Collins, 2009 for a review). Relationships with parents can be seen as a micro-social context in which family members share a subjective reality, including shared values, attitudes, emotions, and world views (Walter and Shenaar-Golan, 2017). Previous literature consistently shows that parenting, defined in terms of the attitudes that parents have toward child rearing, is an important determinant of children' and adolescents' subjective well-being (Griffith et al., 2003; Laursen and Collins, 2009).

Other parental beliefs were also linked to adolescents' emotional development. Some cognitive theories of depression suggest that the negative self-schemas, that create vulnerability to depression, are learned through identification with significant others, such as parents (Beck, 1967). Specifically, children may learn to make the same judgments about events in their lives or about their future as those made by their mothers (Alloy et al., 1999). Studies showed that parents' explanatory styles, defined as habitual ways that individuals explain good and bad events in their lives, are linked to their children's depressive symptoms (Griffith et al., 2003). Another study investigated the link between mothers' beliefs about time and children's ability to project the self in time and to anticipate future events and needs (Vásquez and Cruz, 2013). The results showed that mother's present fatalistic and present hedonism time perspective dimensions were associated with the inter-individual differences on the acquisition of their s children's ability to project the self in time.

Further, previous literature suggests that parents' time perspective may be associated with adolescents' well-being, based on the conceptual similarity between time perspective and parental attachment and on the link between parental attachment and children's well-being (Jiang et al., 2013; Laghi et al., 2016). Specifically, similar with time perspective, the attachment representations include past memories, present perceptions, and future expectations (Bowlby, 1982). However, future time perspective and attachment are distinct constructs. Time perspective includes past, present

and future orientations, while the attachment representations are based on parents' past memories of attachment relationships and correspond to present perceptions, which in turn influence the children's future expectations about interpersonal relationships (Bowlby, 1982; Ely and Mercurio, 2011). For example, the adolescents with a secure attachment style have already processed past memories of their parents, and have positive and confident perceptions about their present life, and consequently, develop positive expectations about their futures. Therefore, they manifest a high level of satisfaction with life (Bowlby, 1982; Thompson, 2008). If parents' past memories are related to adolescents' well-being, there is possibility that other parental beliefs toward past, or even toward present and future, might be associated with the adolescents' subjective well-being. However, to our knowledge these relations were not investigated until now. Thus, the third aim of the present study is to assess the relation between mother time perspective and adolescent subjective well-being. Because these relations were unexplored, we propose to assess if mother time perspective and adolescent time perspective are differently associated with adolescent's depressive symptoms and life satisfaction.

## Method

### *Participants*

A sample of 104 high school children (aged 15–17; 72.1% girls and 27.9% boys) and their mothers (aged 35–59) were recruited from urban public schools from North-East region of Romania, with 62.5% in the ninth grade and 37.5% in the 10th grade. Mothers had high school degree (57.7%), college (24%) or less than a high school degree (18.3%). Further, 88.5% of adolescents reported intact family status, 1.9% indicating single parent status, 2.9% divorced and 6.7% widowed parent.

### *Procedure*

Written consent was obtained from parents, and children gave their verbal assent to take part in the study. Older adolescents also signed written assent forms. Adolescents and their mothers completed questionnaires during the second semester. Adolescents' data were collected at schools. The survey took place in the classroom in groups of 20–25 students, on a regular school day, in the presence of an experienced research assistant, and lasted for about 40 minutes. Mothers responded to a mailed questionnaire in their homes and returned it by a stamped envelope.

## Measures

All questionnaire were translated from English into Romanian using the forward-backward translation design (Hambleton et al., 1999). Minor corrections to the translations were made based on the back-translation process.

**Adolescents' life events.** Adolescents' past experience was evaluated with *The Life Events Checklist* (LEC; Johnson and McCutcheon, 1980). The 46-item questionnaire measured the occurrence of both uncontrollable (18 item; e.g. Have your parents divorced?) and controllable (28 items, e.g. Have you trouble with a teacher?) major life events. The adolescent reported if the events were positive or negative and rates if the events happened to them (1) or not (0). Scores ranged from 0 to 46, with higher numbers indicating more frequent experiences of stressful life events. Internal consistency in the current sample was .74. Previous studies showed that the LEC has good reliability (Yang et al., 2008) and validity in that it is associated with adolescents' outcomes, such as perceived stresses, academic achievement, and anxiety (e. g., Suldo et al., 2015; Valle et al., 2006).

**Adolescents' time perspective.** Students completed the *Adolescent Time Inventory* (Worrell and Mello, 2007), an adapted form of Zimbardo Time Perspective Inventory (ZTPI; Zimbardo and Boyd, 1999), to measure their time attitude. The questionnaire consists of 56 items and 5 five-item subscales that measures the positive and negative attitudes toward the past, present, and future. The subscales were: Past Positive (six items; e.g. Pleasurable to think about my past,  $\alpha = .67$ ), Past Negative (nine items; e.g. Thinking about bad things in past,  $\alpha = .67$ ); Present Hedonist (15 items; e.g. I get caught up in the moment;  $\alpha = .77$ ); Present Fatalist (five items; e.g. Reduces joy to think about goals;  $\alpha = .40$ ); Future (12 items; e.g. I am very optimistic about my future;  $\alpha = .68$ ). Present fatalist time perspective was not included in subsequent analyses because of the low internal consistency of this scale. Respondents rated the items on a five-point Likert scale from 1 (very uncharacteristic) to 5 (very characteristic). For each subscale, a total score was computed by averaging the responses across items. Previous literature shows that the scale has good validity. For example, it is associated with adolescents' hope, well-being, and academic achievement (e.g. Orkibi and Dafner, 2016; Worrell and Mello, 2007).

**Mothers' time perspective.** Mothers complete the ZTPI (Zimbardo and Boyd, 1999) in order to assess their time perspective. The ZTPI is a multi-dimensional scale which measures time perspective in three temporal frames: the past, present (on both positive and negative dimensions) and future. It contains the following five subscales: Positive Past (seven items,

e.g. Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories;  $\alpha = .72$ ), Negative Past (eight items, e.g. I often think of what I should have done differently in my life;  $\alpha = .76$ ), Hedonistic Present (15 items; e.g. Taking risks keeps my life from becoming boring;  $\alpha = .78$ ), Fatalistic Present (seven items, Fates determines much in my life;  $\alpha = .62$ ) and Future (10 items; e.g. I believe a person's day should be planned ahead each morning;  $\alpha = .70$ ). Items are rated on a Likert-type response scale ranging from 1 (very untrue of me) to 5 (very true of me). For each subscale, a total score was computed by averaging the responses across items. The ZPTI relates to other measures of time perspective (e.g. Consideration of Future Consequences; Ryack, 2012), depression and anxiety (Zimbardo and Boyd, 1999).

**Adolescents' depressive symptoms.** An adaptation of *Center for Epidemiological Studies Depression Scale for Children* (CES-DC; Weissman et al., 1980) was used to assess the depressive symptoms in adolescents. The scale consists in 20-item and the adolescent was asked to report how much she/he have experienced each symptom in the past week, from (0) "not at all" to (3) "a lot". When we computed the total score, we excluded one item that specifically deals with thoughts about the future. Thus, we avoid conceptual overlap between the future time perspective and depressive symptoms constructs. Scores range from 4 to 47, with higher scores indicative of higher levels of depressive symptoms (Weissman et al., 1980). Scores above 15 may indicate significant levels of depression (Weissman et al., 1980). In our study, 57.7% children have scores above 15. Internal consistency in the current sample was very good ( $\alpha = .85$ ). The CES-DC relates to other measures of depression (e.g. Children Depression Inventory; Doerfler et al., 1988), dependency and self-criticism (e.g. Soenens et al., 2012).

**Adolescents' life satisfaction.** The *Multidimensional Students' Life Satisfaction Scale* (MSLSS; Huebner, 1994), translated into Romanian by Gherasim et al. (2017) was used to measure the adolescents' life satisfaction. The 31-item questionnaire consists of four subscales assessing adolescents' life satisfaction in four different domains: family (seven items, e.g. I enjoy being at home with my family), friends (nine items, e.g. My friends treat me well), school (eight items, e.g. I look forward to going to school), and self (seven items, e.g. I like myself). Participants responded to each item using a four-point scale ranging from 1 = never to 4 = always. A total life-satisfaction score was computed by summing the responses across items. Alpha for the entire sample was .84, and Alphas for MSLSS subscales range from .65 to .71. Previous studies showed that MSLSS has good psychometric

properties in that it is associated with other measures of well-being (e.g. Dew and Huebner, 1994) and perceived academic performance or social support (e.g. Gherasim et al., 2017; Raboteg-Saric and Sakic, 2014).

## Results

### Overview

First, preliminary analyses assessed whether demographic variables are related to adolescents' depressive symptoms and life satisfaction. Second, zero-order correlations among the main study variables were computed. Because some adolescent have data missing on mothers' past negative and positive (1%), present hedonist (4.8%), present fatalist (1%) and future (1.9%) time perspectives, for correlation analyses we used pairwise comparison. Third, we conducted a path analysis to evaluate the contribution of adolescent's time perspective and life events and mother time perspective on adolescent subjective well-being. We used the full information maximum likelihood method in the path analyses (Amos 20 software), which is efficient in handling missing data (Enders and Bandalos, 2001).

### Preliminary analyses

Descriptive statistics for the main variables are presented in Table 1. We conducted preliminary analyses to investigate whether demographic variables (adolescent's gender and age, mother education and marital status) were related to adolescents' subjective well-being. There were no gender differences in adolescents' depressive symptoms and life satisfaction,  $t_s < .86$ , all  $p_s > .05$ . Zero-order associations showed that adolescents' age did not correlate to their depressive symptoms,  $r = .09$ ,  $p > .05$ , but was significantly negatively associated with life satisfaction,  $r = -.26$ ,  $p < .01$ . An ANOVA analysis indicated there were no significant differences on adolescents' depressive symptoms and life satisfaction based on mother's educational level and marital status,  $F_s < .83$ , all  $p_s > .05$ . Because of these significant results, we repeated the main analyses controlling for the adolescents' age. Because there were no significant relations between adolescents' age with their depressive symptoms and life satisfaction, the further analyses were conducted without controlling for this demographic variable.

Zero-order correlations showed that adolescents' life negative events were significantly positively associated with past negative but negatively with past positive dimension of time perspective (see Table 2). Further, zero-order correlations showed the mothers' past positive was significantly

**Table 1.** Means, standard deviations, and minimum and maximum values of the main study variables.

Variables	N	Mean	SD	Minimum	Maximum
<b>Adolescents</b>					
1. Past negative time perspective	103	3.14	.46	2.20	4.40
2. Past positive time perspective	104	3.75	.57	1.83	4.83
3. Present hedonist time perspective	104	3.41	.46	2.33	4.60
4. Future time perspective	102	3.35	.42	2.38	4.62
5. Negative events	104	42.15	6.93	32.00	67.00
6. Depressive symptoms	104	18.03	9.13	4.00	47.00
7. Life satisfaction	99	74.00	8.86	50.00	104.00
<b>Mothers</b>					
1. Past negative time perspective	102	2.87	.71	1.25	4.38
2. Past positive time perspective	103	3.70	.63	1.86	5.00
3. Present hedonist time perspective	99	3.15	.56	1.20	4.53
4. Present fatalist time perspective	103	2.99	.59	1.29	4.43
5. Future time perspective	102	3.49	.54	2.10	4.80

**Table 2.** Zero-order correlations among adolescents' time perspective, negative events and their subjective well-being.

Variables	1	2	3	4	5	6	7	8
1. Past negative time perspective								
2. Past positive time perspective	-.35***							
3. Present hedonist time perspective	.23*	.04						
4. Future time perspective	-.07	.18*	-.07	-.06				
5. Negative events	.36***	-.23*	-.18	.04	-.09			
6. Depressive symptoms	.41***	-.23*	.03	.06	.01	.45***		
7. Life satisfaction	-.38***	.36***	-.01	-.02	.17	-.24*	-.47**	

Note: N = 104.

\* $p < .05$ .\*\* $p < .01$ .\*\*\* $p < .001$ .

**Table 3.** Zero-order correlations among mothers' time perspective and adolescents' subjective well-being.

Variables	M	SD	1	2	3	4	5	6
1. Past negative time perspective	2.87	.71						
2. Past positive time perspective	3.70	.63	.36***					
3. Present hedonist time perspective	3.15	.56	.43***	.52***				
4. Present fatalist time perspective	2.99	.59	.54***	.31**	.51***			
5. Future time perspective	3.49	.54	.19*	.50***	.61***	.21*		
6. Depressive symptoms	19.02	9.69	.14	.01	.10	.05	.11	
7. Life satisfaction	86.25	9.62	-.15	.002	.03	-.23*	-.01	-.47***

Note:  $N = 104$ .

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

positively associated with present hedonist and future dimensions of time perspective, but negatively with past negative time perspective (see Table 3).

Regarding the association between mother and adolescent's negative events and time perspective, the results indicated significant positive associations between mother past negative and adolescent's past negative and present hedonist ( $r_s = .17$  and  $.28$ , all  $p_s < .07$ ), and between mother future time perspective and adolescent present hedonist ( $r = .18$ ,  $p < .06$ ). Further, adolescents' life events positively correlated with their past negative and negatively with past positive. Finally, adolescents who reported higher levels of depressive symptoms also reported lower levels of life satisfaction (see Table 2).

### *Associations of adolescent's time perspective and negative life events with their subjective well-being*

Zero-order associations revealed that adolescents who reported higher levels of negative events in their life also reported higher levels of depressive symptoms and lower levels of life satisfaction. Further, adolescent's depressive symptoms were significantly positively associated with past negative time perspective, and significantly negatively correlated with past positive time perspective (see Table 2). Further, life satisfaction was negatively associated with adolescent past negative but positively with past positive time perspectives.

### *Associations of mother time perspective with adolescents' subjective well-being*

Associations of mother time perspective with adolescent's subjective well-being are presented in Table 3. The results indicated that maternal fatalist present dimension was significantly negatively linked to adolescents' life satisfaction. No other correlations were significant.

### *Path analysis testing*

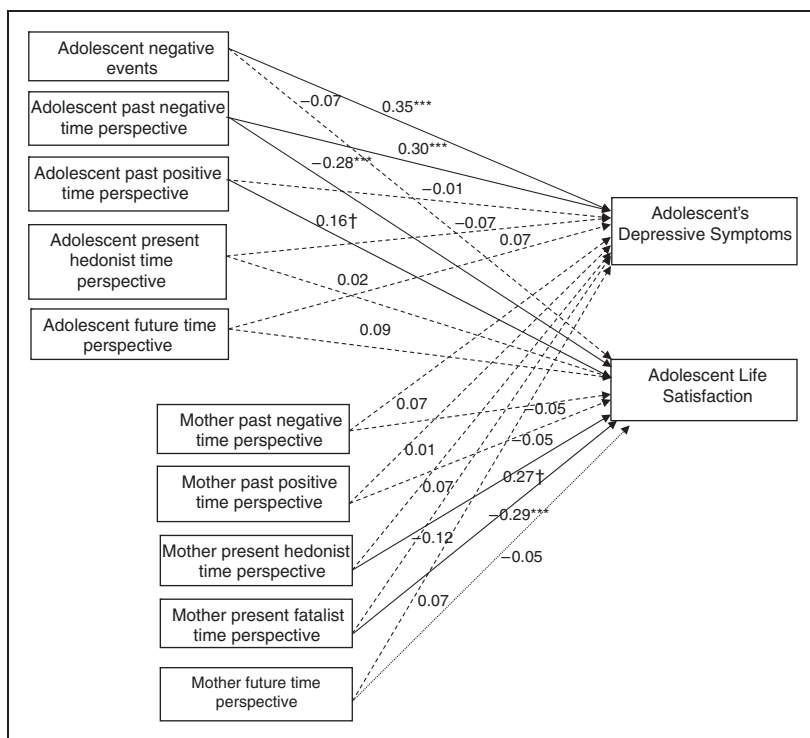
To examine the relations between adolescents' negative life events and time perspective and mothers' time perspective, on one hand, and adolescents' subjective well-being (life satisfaction and depressive symptoms) on the other, we used a path analysis. The model (see Figure 1) assesses the relations between all adolescents' and mothers' time perspective dimensions and adolescents' subjective well-being simultaneously. We included covariances among the variables in the model (e.g. covariances among all adolescent variables, covariances between mother variables), however, given the complexity of the model they are not represented in the figure.

Estimation of the model showed that the model obtained good fit indices,  $\chi^2(29) = 40.35$ ,  $p = .078$ ; NNFI = .87; CFI = .95, RMSEA = .06. The model explained 31.6% of the variance in adolescents' depressive symptoms and 25.5% of the variance in adolescents' life satisfaction. Standardized path estimates are shown in Figure 1. Adolescents' life events and past negative time perspective were significantly related with adolescents' depressive symptoms. Mothers' time perspective dimensions were not significantly associated to adolescents' depressive symptoms. Further, adolescents' past negative time perspective was significantly associated with their life satisfaction while adolescents' past positive time perspective was marginally associated with their life satisfaction after controlling for the other variables (e.g. adolescent life events). In addition, mothers' present fatalist and hedonist time perspective dimensions were significantly associated with the adolescents' life satisfaction.

## **Discussion**

The present study investigated the relations of adolescents' negative events and time perspective with their depressive symptoms and life satisfaction, as indicators of subjective well-being. Further, we explored how mothers' time perspective is related to adolescents' subjective well-being.

The results indicated that adolescents who reported higher levels of negative events in their life also reported higher levels of depressive symptoms



**Figure 1.** Standardized path estimates of the partial mediation model evaluating adolescents' future time perspective as a mediator between parental rearing practices and children's depressive symptoms. † $p < .08$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

and lower levels of life satisfaction. These results are in line with previous studies indicating that adolescents' experiencing more past negative events are more likely to report higher levels of depressive symptoms (e.g. Barrocas and Hankin, 2011; Johnson et al., 2012; Kindt et al., 2015) and lower life satisfaction (e.g. Garcia et al., 2011; Moksnes and Haugan, 2015). The results highlight the importance of paying attention to major life events in understanding the adolescents' subjective well-being.

Significant relations between adolescents' time perspective and their subjective well-being were found. Specifically, adolescents' past positive time perspective was negatively associated and past negative perspective was positively associated with their depressive symptoms. The results confirm a previous study conducted in Western adolescent sample (Hamilton et al., 2015). It seems that past time dimensions are more likely to create vulnerability to depression, among adolescents. The association between past time

perspective and depressive symptoms can be explained giving the actual negative past experiences or the negative construal of past memories in light of present difficulties (Boyd and Zimbardo, 2005), which may be associated with a high level of depression in the present.

The past positive and past negative time perspectives also significantly correlated with life satisfaction. Specifically, adolescents who reported a high level of positive past and a low level of negative past perspectives also reported a high level of life satisfaction. These findings are in line with few previous findings showing that past positive and negative time perspectives were consistently associated to adolescents' life satisfaction (Laghi et al., 2016; Orkibi and Dafner, 2016).

Although previous studies showed that Western adolescents are focused more on present, than on the past or future (Siu et al., 2014; Zimbardo and Boyd, 1999), in our adolescent sample, negative and positive past time perspectives are highly correlated to subjective well-being. The associations between past negative time perspective and adolescents' depression and subjective well-being are much stronger than the association between past positive time perspective and depressive symptoms. These results confirm previous results showing that psychological implications of negative experiences are much stronger (Orkibi and Dafner, 2016).

Although some previous studies conducted on Western adolescents found significant associations between both present and future and life satisfaction (Laghi et al., 2016; Orkibi and Dafner, 2016), in our study, these dimensions of time perspective were not significantly related to life satisfaction. These non-significant links between present and future perspectives with subjective well-being could be explained by other variables, such as daily stress or anxiety regarding the future, that may moderate or mediate these relations.

When included simultaneously in path analyses, past negative events are important predictors for adolescents' depressive symptoms, but not for their life satisfaction. These results confirm a recent meta-analysis conducted on adults' samples revealing that negative life events may influence differentially the cognitive (e.g. life satisfaction) and affective components of subjective well-being (e.g. depression) (Luhmann et al., 2012b). The differential association of life events with depression and life satisfaction can be partially explained by scales used to measure the adolescents' subjective well-being. The scale assessing life satisfaction offer a general evaluation, while the scale assessing depression focused on participants' moods within a specific time frame (a week) (Luhmann et al., 2012a). Further, adolescent depressive symptoms were significantly positively associated with a past negative time perspective, whereas life satisfaction was significantly negatively associated with past negative and past positive time dimensions.

These findings are in line with previous findings showing that past positive and past negative time perspectives significantly correlated to depressive symptoms and life satisfaction on samples of Western adolescents (Hamilton et al., 2015; Laghi et al., 2016).

The path analyses indicated significant correlations between mothers' time perspectives and adolescents' subjective well-being. Specifically, mothers who reported higher scores on present fatalist tend to have children who reported lower levels of life satisfaction, while mothers who reported higher scores on present hedonist tend to have children who reported higher levels of life satisfaction. No other dimension of mothers' time perspective correlated significantly with adolescents' depressive symptoms or life satisfaction. These findings are in line with previous studies indicating that parents' beliefs regarding events are associated with their children's subjective well-being (i.e. depressive symptoms; Alloy et al., 1999; Griffith et al., 2003). Some moderators, like the quality of relation between mother and adolescent, could explain the lack of significant relations between the other dimensions of mothers' time perspective and adolescents' well-being. Assessing time perspective of both adolescents and their mothers is the exception rather than the norm of available research, and our findings suggest that it is important to consider both adolescents' and parents' time perspective in relation to adolescents' subjective well-being, given the nuanced differences of their relations.

When interpreting these results, several limitations should be mentioned. First, our data rely on self-report measures. A multidimensional assessment strategy, using not only self-report questionnaires and also individual interviews and parent reports may offer a deeper understanding of adolescents' life experiences and their impact on different indicators of subjective well-being (McCullough et al., 2000). Second, the cross-sectional nature of the study did not allow us to sustain causal relations between our study variables. Future longitudinal and experimental studies are needed to better understand the complex relations between life events, cognitive evaluations of time (time perspective) and subjective well-being. Third, future studies should investigate whether the relations between both mothers' and adolescents' time perspective and adolescents' subjective well-being could be mediated or moderated by other variables, such as mood or quality of relation between parents and their children.

Despite the above-presented limitations, our results have important theoretical and practical implications. From a theoretical point of view, the results shed light on some relations less or unstudied before. Specifically, the present study validates the relations between time perspectives and subjective well-being (depressive symptoms and life satisfaction) on a less explored sample, adolescents from Eastern European countries.

Moreover, we assessed the role of mothers' time perspective on adolescents' subjective well-being. To our knowledge, this is the first study investigating these relations between mothers' perspective about time and adolescents' subjective well-being. Assessing these relations is of great significance for promoting adolescent's healthy development and mental health interventions.

Some practical implications for improving adolescents' subjective well-being could be identifying. First, our results suggest that multiple everyday life experiences faced by adolescents need to be considered in order to understand and improve their subjective well-being. Therefore, prevention and intervention strategies designed to enhance adolescents' subjective well-being should consider teaching adolescents different coping strategies to adapt to every day stressor and major life events. Second, personal evaluation of personal past should be considered when designing these kinds of interventions. Teaching adolescents to adopt a positive view about their past and to accept previous experiences seems to be essential for promoting life satisfaction and decreasing depressive symptoms. Third, the mothers' perspective toward time should be considered in order to enhance adolescents' life satisfaction and depressive symptoms.

The present study findings advance the literature on adolescents' time perspective and life events, mothers' future time perspective, and adolescents' subjective well-being. In summary, we found that adolescents' past time perspectives and negative life events were significantly associated with their subjective well-being. Further, mothers' fatalist present perspective was associated with adolescents' life satisfaction. Future studies need to evaluate other variables that may be responsible for the relations between time perspective and subjective wellbeing in adolescence.

### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### **Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### **References**

- Alloy LB, Abramson LY, Whitehouse WG, et al. (1999) Depressogenic cognitive styles: Predictive validity, information processing and personality characteristics, and developmental origins. *Behaviour Research and Therapy* 37(6): 503–531.
- Barrocas AL and Hankin BL (2011) Developmental pathways to depressive symptoms in adolescence: A multi-wave prospective study of negative emotionality, stressors, and anxiety. *Journal of abnormal child psychology* 39(4): 489–500.

- Beck AT (1967) *Depression: Clinical, Experimental, and Theoretical Aspects*. New York: Harper & Row.
- Blomgren AS, Svahn K, Aström E, et al. (2016) Coping strategies in late adolescence: Relationships to parental attachment and time perspective. *The Journal of Genetic Psychology* 177(3): 85–96.
- Boniwell I, Osin E, Alex Linley P, et al. (2010) A question of balance: Time perspective and well-being in British and Russian samples. *The Journal of Positive Psychology* 5(1): 24–40.
- Bowlby J (1982) Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry* 52(4): 664–678.
- Boyd JN and Zimbardo PG (2005) Time perspective, health, and risk taking. In: Strahman A and Joireman J (eds) *Understanding Behavior in the Context of Time: Theory, Research and Applications*. Mahwah, NJ: Erlbaum, pp. 85–107.
- Chang EC, Elizabeth AY, Lee JY, et al. (2013) An examination of optimism/pessimism and suicide risk in primary care patients: Does belief in a changeable future make a difference? *Cognitive Therapy and Research* 37(4): 796–804.
- Chin J and Holden RR (2013) Multidimensional future time perspective as moderators of the relationships between suicide motivation, preparation, and its predictors. *Suicide and Life-Threatening Behavior* 43(4): 395–405.
- Daugherty JR and Brase GL (2010) Taking time to be healthy: Predicting health behaviors with delay discounting and time perspective. *Personality and Individual Differences* 48(2): 202–207.
- Desmyter F and De Raedt R (2012) The relationship between time perspective and subjective well-being of older adults. *Psychologica Belgica* 52(1): 19–38.
- Dew T and Huebner ES (1994) Adolescents' perceived quality of life: An exploratory investigation. *Journal of School Psychology* 32(2): 185–199.
- Doerfler LA, Felner RD, Rowlison RT, et al. (1988) Depression in children and adolescents: A comparative analysis of the utility and construct validity of two assessment measures. *Journal of Consulting and Clinical Psychology* 56(5): 769–772.
- Ehrlich BS and Isaacowitz DM (2002) Does subjective well-being increase with age. *Perspectives in Psychology* 5: 20–26.
- Ely R and Mercurio A (2011) Time perspective and autobiographical memory: Individual and gender differences in experiencing time and remembering the past. *Time & Society* 20(3): 375–400.
- Enders CK and Bandalos DL (2001) The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal* 8(3): 430–457.
- Garcia D, Rosenberg P and Siddiqui A (2011) Tomorrow I could be in trouble... but the sun will come out next year: The effect of temporal distance on adolescents' judgments of life satisfaction. *Journal of Adolescence* 34(4): 751–757.
- Gherasim LR, Brumariu LE and Alim CL (2017) Parenting Style and Children's Life Satisfaction and Depressive Symptoms: Preliminary Findings from Romania, France, and Russia. *Journal of Happiness Studies* 18(4): 1013–1028.

- Gilman R, Huebner ES, Tian L, et al. (2008) Cross-national adolescent multidimensional life satisfaction reports: Analyses of mean scores and response style differences. *Journal of Youth and Adolescence* 37(2): 142–154.
- Griffith SJ, Oliver JM, Katz BM, et al. (2003) Mothers' attributional style for events in their offsprings' lives as predictors of their offsprings' cognitive vulnerability to depression. *North American Journal of Psychology* 5: 1–14.
- Hambleton RK, Yu J and Slater SC (1999) Fieldtest of the ITC guidelines for adapting educational and psychological tests. *European Journal of Psychological Assessment* 15(3): 270–276.
- Hamilton JL, Connolly SL, Liu RT, et al. (2015) It gets better: Future orientation buffers the development of hopelessness and depressive symptoms following emotional victimization during early adolescence. *Journal of Abnormal Child Psychology* 43(3): 465–474.
- Hammen C (2016) Depression and stressful environments: Identifying gaps in conceptualization and measurement. *Anxiety, Stress, & Coping* 29(4): 335–351.
- Huebner ES (1994) Preliminary development and validation of a multidimensional life satisfaction scale for children. *Psychological Assessment* 6(2): 149–158.
- Jiang XU, Huebner ES and Hills KJ (2013) Parent attachment and early adolescents' life satisfaction: The mediating effect of hope. *Psychology in the Schools* 50(4): 340–352.
- Johnson JH and McCutcheon SM (1980) Assessing life stress in older children and adolescents: Preliminary findings with the Life Events Checklist. *Stress and Anxiety* 7: 111–125.
- Johnson DP, Whisman MA, Corley RP, et al. (2012) Association between depressive symptoms and negative dependent life events from late childhood to adolescence. *Journal of Abnormal Child Psychology* 40(8): 1385–1400.
- Jun MH and Choi JA (2013) The longitudinal effects of parental monitoring and self-control on depression in Korean adolescents: A multivariate latent growth approach. *Children and Youth Services Review* 35(9): 1327–1332.
- Kerr M and Stattin H (2000) What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology* 36(3): 366–380.
- Kindt KC, Kleinjan M, Janssens JM, et al. (2015) Cross-lagged associations between adolescents' depressive symptoms and negative cognitive style: The role of negative life events. *Journal of Youth and Adolescence* 44(11): 2141–2153.
- Laghi F, Liga F, Baumgartner E, et al. (2012) Time perspective and psychosocial positive functioning among Italian adolescents who binge eat and drink. *Journal of Adolescence* 35(5): 1277–1284.
- Laghi F, Pallini S, Baumgartner E, et al. (2016) Parent and peer attachment relationships and time perspective in adolescence: Are they related to satisfaction with life? *Time & Society* 25(1): 24–39.
- Laursen B and Collins WA (2009) Parent–child relationships during adolescence. In: Lerner RM and Steinberg L (eds) *Handbook of Adolescent Psychology (3rd ed.)*. Vol. 2: *Contextual Influences on Adolescent Development*. New York: Wiley, pp. 3–42.

- Luhmann M, Hawkey LC, Eid M, et al. (2012a) Time frames and the distinction between affective and cognitive well-being. *Journal of Research in Personality* 46(4): 431–441.
- Luhmann M, Hofmann W, Eid M, et al. (2012b) Subjective well-being and adaptation to life events: A meta-analysis. *Journal of Personality and Social Psychology* 102(3): 592–615.
- McCullough G, Huebner ES and Laughlin JE (2000) Life events, self-concept, and adolescents' positive subjective well-being. *Psychology in the Schools* 37(3): 281–290.
- Moksnes UK and Haugan G (2015) Stressor experience negatively affects life satisfaction in adolescents: The positive role of sense of coherence. *Quality of Life Research* 24(10): 2473–2481.
- Needham BL (2007) Gender differences in trajectories of depressive symptomatology and substance use during the transition from adolescence to young adulthood. *Social Science & Medicine* 65(6): 1166–1179.
- Oishi S, Diener E, Lucas RE, et al. (2009) Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. In: Diener E (ed.) *Culture and Well-Being. The Collected Works of Ed Diener Social Indicators Research Series*. Dordrecht: Springer Science + Business Media, pp. 109–127.
- Orkibi H and Dafner E (2016) Exposure to risk factors and the subjective wellbeing of adolescents: The mediating role of time perspective. *Child Indicators Research* 9(3): 663–682.
- Proctor CL, Linley PA and Maltby J (2009) Youth life satisfaction: A review of the literature. *Journal of Happiness Studies* 10(5): 583–630.
- Raboteg-Saric Z and Sakic M (2014) Relations of parenting styles and friendship quality to self-esteem, life satisfaction and happiness in adolescents. *Applied Research in Quality of Life* 9(3): 749–765.
- Ryack K (2012) Evidence that time perspective factors depend on the group: Factor analyses of the CFC and ZTPI scales with professional financial advisors. *Personality and Individual Differences* 52(6): 723–727.
- Siu NY, Lam HH, Le JJ, et al. (2014) Time perception and time perspective differences between adolescents and adults. *Acta Psychologica* 151: 222–229.
- Sobol-Kwapinska M (2016) Calm down—It's only neuroticism. Time perspectives as moderators and mediators of the relationship between neuroticism and well-being. *Personality and Individual Differences* 94: 64–71.
- Sobol-Kwapinska M and Jankowski T (2016) Positive time: Balanced time perspective and positive orientation. *Journal of Happiness Studies* 17(4): 1511–1528.
- Soenens B, Park SY, Vansteenkiste M, et al. (2012) Perceived parental psychological control and adolescent depressive experiences: A cross-cultural study with Belgian and South-Korean adolescents. *Journal of Adolescence* 35(2): 261–272.
- Stolarski M, Matthews G, Postek S, et al. (2014) How we feel is a matter of time: Relationships between time perspectives and mood. *Journal of Happiness Studies* 15(4): 809–827.
- Suldo SM, Dedrick RF, Shaunessy-Dedrick E, et al. (2015) Development and initial validation of the Student Rating of Environmental Stressors Scale: Stressors

- faced by students in accelerated high school curricula. *Journal of Psychoeducational Assessment* 33(4): 339–356.
- Sun RC and Shek DT (2010) Life satisfaction, positive youth development, and problem behaviour among Chinese adolescents in Hong Kong. *Social Indicators Research* 95(3): 455–474.
- Thompson RA (2008) Attachment-related mental representations: Introduction to the special issue. *Attachment and Human Development* 10: 347–358.
- Valle MF, Huebner ES and Suldo SM (2006) An analysis of hope as a psychological strength. *Journal of School Psychology* 44(5): 393–406.
- Vásquez A and Cruz O (2013) “Start thinking what are you going to be when adult!” The relationship between parental time orientation and the emergence of episodic foresight in preschool aged children. In: Paixao MP, da Silva JT and Cordeiro P (eds) *International Studies in Time Perspective*. Lisbon: Coimbra University Press, pp. 13–18.
- Vowinckel JC, Westerhof GJ, Bohlmeijer ET, et al. (2015) Flourishing in the now: Initial validation of a present-eudaimonic time perspective scale. *Time & Society* 26(2): 1–24.
- Walter O and Shenaar-Golan V (2017) Effect of the parent–adolescent relationship on adolescent boys’ body image and subjective well-being. *American Journal of Men’s Health* 11(4): 920–929.
- Weissman MM, Orvaschel H and Padian N (1980) Children’s symptom and social functioning self-report scales comparison of mothers’ and children’s reports. *The Journal of Nervous and Mental Disease* 168(12): 736–740.
- Worrell FC and Mello ZR (2007) The reliability and validity of Zimbardo Time Perspective Inventory scores in academically talented adolescents. *Educational and Psychological Measurement* 67(3): 487–504.
- Yang HJ, Chiu YJ, Soong WT, et al. (2008) The roles of personality traits and negative life events on the episodes of depressive symptoms in nonreferred adolescents: A 1-year follow-up study. *Journal of Adolescent Health* 42(4): 378–385.
- Yue L, Dajun Z, Yinghao L, et al. (2016) Meta-analysis of the relationship between life events and depression in adolescents. *Journal of Pediatric Care* 2: 1.
- Zambianchi M and Ricci BPE (2012) Benessere psicologico e prospettiva temporale negli adolescenti e nei giovani. *Psicologia della Salute* 20: 83–102.
- Zhang JW and Howell RT (2011) Do time perspectives predict unique variance in life satisfaction beyond personality traits? *Personality and Individual Differences* 50(8): 1261–1266.
- Zhang JW, Howell RT and Stolarski M (2013) Comparing three methods to measure a balanced time perspective: The relationship between a balanced time perspective and subjective well-being. *Journal of Happiness Studies* 14(1): 169–184.
- Zimbardo P and Boyd JN (1999) Putting time in perspective. A valid reliable individual-differences. *Journal of Personality and Social Psychology* 23: 1007–1023.
- Zimbardo P and Boyd J (2008) *The Time Paradox: The New Psychology of Time that will Change Your Life*. New York: Free Press of Simon and Schuster Inc.