Continued or Temporary Impact:

The Effect of Family Life Events on Adolescents' Depression

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Abstract

This study examined the temporary and continuing impact of family life events and the mediating effect of relationship satisfaction between family life events and adolescents' depression. We developed five hypotheses (Short-Term Impact, Lagged Impact, Continuing Impact, Mediating and Intervening Hypotheses) to confirm the impact of family life events and to check the influence of relationship satisfaction on the association between family life events and adolescents' depression. Data (n=2386) was based on a panel study conducted by the Taiwan Youth Project in 2000 (7^{th} grade), 2001 (8^{th} grade), and 2002 (9^{th} grade). Results from path analysis are as follows: first, the effects of each family life event on adolescents' depression or relationship satisfaction were manifold, and there were short-term impact and partial continuing impact, but no lagged effect; secondly, the effect of relationship satisfaction on depression was only short-term, rather than lagged or continuing; however, adolescents' satisfaction with their mothers failed to show any significant impact on adolescents' depression; thirdly, both mediating and intervening effects on adolescents' depression were found, especially adolescents' satisfaction with their fathers which showed an intervening effect. The nature of family life events and the roles of parents, peers and teachers were also discussed.

Stressful life event and depression

Changes in the life of an individual are often defined as stressful life events especially when they are prone to induce stress and affect health (Brown, 1978; Murphy, Moscicki, Vermund, & Muenz, 2000). Life events connected with loss, school, family and friendship may be associated with depression, whereas threatening events (e.g., trauma, physical harm, or performance of a stressful task) may be related to anxiety rather than depression (Eley & Stevenson, 2000). On the other hand, our ability to make causal inferences regarding the relation between stressful life events and depression is limited because for one thing, not all research has confirmed such relation (Mundt, Reck, Backensrass, Kronmuller, & Fiedler, 2000), and for another thing, it is difficult to come up with either an appropriate methodology or a consistent interpretation and assessment of life events (Kessler, 1997; Friis, Wittchen, Pfister, & Lieb, 2002).

According to Kessler (1997), the most common type of life event study adopts a retrospective, cross-sectional approach in which subjects, whose exposure to stressors might occur after the onset of depression, are asked to recall past experience of stressful life events. Instead of adopting this problematic approach, many scholars argue for greater use of prospective designs which can more adequately illustrate the causal relationship between stressful life events and subsequent depression. In addition, many of the studies of life events have analyzed samples of patients, or other narrowly defined groups, rather than representative community populations. Research with community-based samples could enable investigators to develop information with externally valid findings.

Mediating factors between life events and depression

With respect to the life event-depression relationship, another crucial issue is the role of

mediating factors, which include adaptive personal and social resources (Holahan, & Moos, 1991), perceived self-efficacy (Maciejewski, Prigerson, & Mazure, 2000), social support and effective coping strategies (Holahan, & Moos, 1991), although the buffering effect of social support has not been substantiated in all research (Wade, & Kendler, 2000). Social competence may also affect one's ability to obtain social support and to adjust to stressful life events (Kessler, Kendler, Health, Neale, & Eaves, 1992).

Many studies show that life stress has a significant but moderate influence on mental and physical well-being. Rabkin & Struening (1976) found that the correlation between life stress and depressive symptoms ranges between .25 and .40. Concurrently, much theoretical work has been dedicated to explicating and integrating social and psychological resources as fundamental intervening, mediating, or moderating factors in the life stress process. However, this research will draw on the mediating factor of relationship satisfaction rather than social and psychological resources.

There are two different points of view about the relationship among life event, relationship satisfaction, and depression. One (Tesser & Beach, 1998) of them explored from a perspective of social judgment processes the relationships among stressful life events, relationship quality, and depression. The social judgment literature suggests that one's judgments tend to be determined by one's level of depressive mood (e.g., Schwarz & Bless, 1992; Schwarz & Clore, 1983). Thus, as depression increases with accumulating negative life events, judgments of relationships with significant others should also become more negative (e.g., Forgas, 1991). So, as negative stressful life events accumulate, depression will increase proportionally. The depressive mood is used as information to make judgments about satisfaction with one's intimate relationships. The greater the depression, the less the satisfaction with one's intimate relationships (Forgas, Levinger, & Moylan, 1994).

From the other perspective, which we will adopt in this study, most researchers see psychosocial variables as intervening factors in the relationship between stressor and well-being (Barrera, 1988). It is generally assumed that external stressors such as life changes, role strains, and daily hassles, if unchecked, will disrupt an individual's psychological equilibrium and induce physiological or psychological responses in the form of distress. It is further assumed that certain resources in the psychosocial environment may intervene in this process. Intervening processes have been hypothesized to (1) exclude or modify conditions leading to problems, (2) change the meaning of the external stimulus so as to neutralize its stressful nature, or (3) manage emotional responses (Pearlin & Schooler, 1978). Thus, the psychosocial variables are conceptualized as reactive elements in the stress process because they are mobilized to mediate or buffer the potential harmful consequences of stressors. We shall describe this line of conceptualization as coping theories.

Comparing Adolescents' Relationships with Parents, Peers, and Teachers

Family is very important for adolescents. If any critical family event happens, it might cause physical or psychological harm to them. In the study of adolescents' behaviors, parenting and schooling are two of the most obvious and important determinants of adjustment or depression. An ecological approach to understanding the relationship between social support and school outcomes focuses on the fact that students are strongly influenced by the social contexts in which they live (Bronfenbrenner, 1986; Fraser, 1997). This influence has found evidence in, for example, the findings of Ezzell, Swenson, and Brondino's investigation of the connection between children's adjustment and their relationship with their parents, peers, and teachers (2000).

Families and parents are held responsible for providing children with a sense of security

and protection (Hartup, 1989). Generally speaking, positive peer relationships established by supportive peer companionship, intimacy, and acceptance are thought to affect children's adjustment t (Furman & Buhrmester, 1992; Parker & Asher, 1993). Teachers' support, like parental support, can increase children's feelings of safety, at least when they are subject to a natural disaster (Vernberg & Vogel, 1993). However, these findings are almost all dependent on cross-sectional data or design, and few attempts have been made to test the roles of relationship quality or relationship satisfaction with panel data (Lin & Ensel, 1989; Ensel & Lin, 1991). Therefore, we will use community-based samples with panel data to examine the relationships among adolescents' family life events, relationship satisfaction and their depression.

Purposes and Hypotheses

The purpose of this study was twofold. First, we examined whether the impact of a family life event was just short-term (temporary) or long-term (continuing). As showed in Figure 1 and Table 1, we made three kinds of hypotheses, that is, Short-Term Impact, Lagged Impact, and Continuing Impact Hypothesis.

1. *Short-Term (Temporary) Impact Hypothesis*: The impact of a family life event during the previous one-year period will appear only at the first measurement point, and not at the subsequent measurement one year later. For short-term impact on depression, there should be a significant coefficient of a_i but a nonsignificant coefficient of d_i; on relationship satisfaction, there should be a significant coefficient of b_i but a nonsignificant coefficient of e_i.

2. *Lagged Impact Hypothesis*: The impact of a family life event during the previous one-year period will appear only at the subsequent measurement point, and not at the first point. For a lagged impact on depression, there should be a significant coefficient of d_i but a

nonsignificant coefficient of a_i; on relationship satisfaction, there should be a significant coefficient of e_i but a nonsignificant coefficient of b_i.

3. *Continuing Impact Hypothesis*: The impact of a family life event during the previous one-year period will appear not only at the first measurement point, but also at the subsequent measurement one year later. For continuing impact on depression, both coefficients of a_i and d_i are expected to be significant; on relationship satisfaction, both coefficients of b_i and e_i should be significant.

Second, we examined how relationship satisfaction influenced the association between family life events and depression. Also as illustrated in Figure 1 and Table 1, we proposed two hypotheses, that is, the Mediating and Intervening Hypotheses.

4. *Mediating Hypothesis*: The influence of family life events on depression should occur both directly, and indirectly through perceived relationship satisfaction. That is, coefficients of a_i , b_i , and c_i are all expected to be significant.

5. *Intervening Hypothesis*: A family life event is expected to influence depression directly, but not directly, through perceived relationship satisfaction. That is, coefficients of b_i , and c_i are thought to be significant, though a_i should be nonsignificant.

We also check the stability coefficients to ensure the reliability and consistency of depression and relationship satisfaction measurements over three periods (coefficients of g_i for relationship satisfaction or h_i for depression).

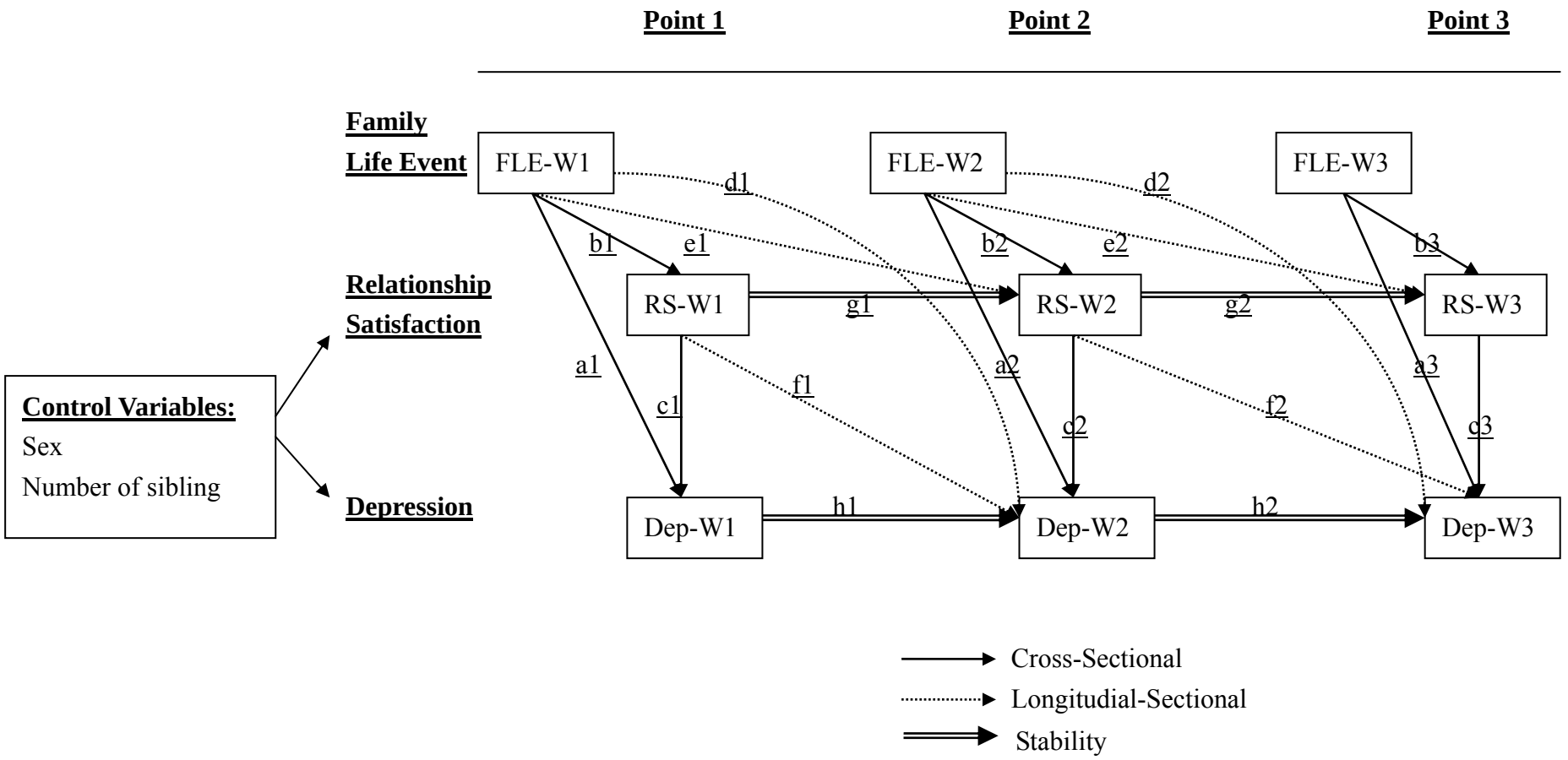

Figure 1. Hypotheses Model

Table 1. Hypotheses

Hypotheses	FLE → Dep		FLE → RS		RS → Dep	
	a_i	d_i	b_i	e_i	c_i	f_i
Short-term (Temporary) Impact Hypothesis	S	NS	S	NS	S	NS
Lagged Impact Hypothesis	NS	S	NS	S	NS	S
Continuing Impact Hypothesis	S	S	S	S	S	S
Mediating Hypothesis	a_i , b_i , c_i >0					
Intervening Hypothesis	a_i =0 and b_i , c_i >0					

FLE: Family Life Event
RS: Relationship Satisfaction
Dep: Depression

METHOD

Participants

Data were derived from a panel study conducted by the Taiwan Youth Project (the Institute of Sociology, Academia Sinica, Taiwan). This project is an 8-year longitudinal research with eight waves of surveys scheduled from 2000 to 2007. About 2800 7th graders (1st grade of junior high) and 2800 9th graders (last year of junior high) as well as one of their parents and their head teacher[1] of the class were interviewed at the beginning of 2000. The comprehensive research design covers various aspects of the interplay among family, school and community in shaping teenagers future development. The overwhelming educational pressure resulting from the senior high school and college entrance examinations is of course a major concern of the study.

[1] In Taiwan, one head teacher (like a 'homeroom' teacher) is assigned additional responsibility our each groups of students, similar to the role of a guidance consular.

The sample used for this paper was based on a survey of 7th grade students from junior high schools located in the northern part of Taiwan in 2000, 2001, and 2002, including Taipei city, Taipei county, and Yi-Lan county. Data used in the final analyses were based on 2511 cases pooled from the three-wave data set. After removing nonresponses, the remaining sample used in the analyses consisted of 2386 adolescents (1222 boys and 1164 girls), with an average age of 13.3 at 7th grade, ranging from 13 to 17 years old.

Measures

Family life events. Forty-three life event items were based on the schedule of recent events (Social Readjustment Rating Scale) developed by Holmes and Rahe (1967). We selected nine items about family. Each adolescent indicated which of the nine family events such as 'father or mother died,' 'parents divorced or separated,' 'father or mother were unemployed,' and so forth, he or she had experienced in the past year.

Relationship satisfaction. Satisfaction with father, mother, peers or friends, and teachers were measured. The four items were rated on a single 4-point scale ranging from 1=very dissatisfied to 4=very satisfied, with higher scores indicating higher satisfaction in the relationship.

Depression. Sixteen depressive symptom items were selected from the Center for Epidemiologic Studies Depression (CES-D) scale (Radloff, 1977), such as 'feeling blue,' 'worrying too much about things,' 'thoughts of ending one's life,' and so on; students were asked to indicate whether they had experience each of these in the past week. These items were measured using a single 5-point scale that ranged from 0= not at all, to 4=very much. The higher the total score, the greater the depressive mood. The depression scale had adequate internal consistency over three waves, α=.87, .86 and .88.

In addition, sex and numbers of siblings were used as control variables in the subsequent

analysis. The data were analyzed with the SAS Proprietary Software Release 8.13 and LISREL 8.52.

Results

Descriptive Statistics for Family Life Events

Table 2 presents the frequency and percentage of family life events in each year.

Table 2. Stressful Family Life Events in the Past Year

Stressful Family Life Events	7th Grade		8th Grade		9th Grade	
	Frequency	%	Frequency	%	Frequency	%
Father or mother died	23	0.96	52	2.17	29	1.21
Parents divorced or separated	146	6.10	113	4.72	90	3.76
Father or mother were unemployed	72	3.01	152	6.35	197	8.24
Father or mother increasingly not at home	452	18.90	475	19.86	466	19.48
Parents quarrel more often	232	9.70	258	10.79	261	10.91
I quarrel with my parents more often	188	7.86	285	11.91	248	10.37
I have been sick or badly hurt	201	8.40	115	4.81	140	5.85
A relative died	333	13.92	301	12.58	336	14.05
My family has become poorer	222	9.28	640	26.76	721	30.14

Means and standard deviations for scores on Depression and Relationship Satisfaction are shown in Table 3. *T*-tests were used to determine whether the presence of each family life event had an effect on adolescents' depression and perceived relationship satisfaction. Particularly, the results indicated that adolescents who were confronted with those family life events such as 'father or mother increasingly not at home,' 'parents quarrel more often,' 'I quarrel with my parents more often' or 'My family has become poorer,' reported higher scores on depression and lower scores on relationship satisfaction, at all 3 measurement points.

Table 3. Means and Standard Deviation for Depression and Relationship Satisfaction

	7th Grade		8th Grade		9th Grade	
	Mean	Std	Mean	Std	Mean	Std
Depressive Mood	23.14[3,4,5,6,7,8,9]	7.76	23.23[2,3,4,5,6,7,9]	7.14	25.40[3,4,5,6,7,8,9]	8.22
Relationship Satisfaction						
With Father	3.19[2,3,4,5,6,9]	0.83	3.05[1,2,3,4,5,6,7,9]	0.80	2.94[2,3,4,5,6,9]	0.76
With Mother	3.31[2,3,4,5,6,9]	0.75	3.16[1,2,3,4,5,6,7,9]	0.74	3.08[3,4,5,6,9]	0.68
With Peers	3.25[3,5,6,9]	0.68	3.13[3,5,6,9]	0.68	3.06[4,5,6,9]	0.63
With Teachers	3.11[2,4,5,6,9]	0.74	2.90[2,4,5,6,7,9]	0.75	2.82[4,6,9]	0.70

[1-9] Event had significant effect.
[1] Father or mother died, [2] Parents divorced or separated, [3] Father or mother unemployed
[4] Father or mother increasingly not at home, [5] Parents quarrel more often,
[6] I quarrel with my parents more often, [7] I have been sick or badly hurt, [8] A relative died,
[9] My family has become poorer

Relationships Between Depression and Relationship Satisfaction

Zero-order Pearson correlation coefficients were computed to describe the relationships between depressive mood and relationship satisfaction with father, mother, peers, and teachers. From Table 4, it can be seen that all variables were positively and significantly correlated to each other. Particularly, the relationship satisfaction with father and with mother were highly intercorrelated (r_s = .62 -- .69), and the correlations of depression and relationship satisfaction were moderately significant over three points (for depression, r_s = .48 -- .58); for satisfaction with father, r_s = .36 -- .46; for satisfaction with mother, r_s = .33 -- .40; for satisfaction with peers, r_s = .22 -- .36; for satisfaction, r_s = .28 -- .35).

Table 4. Zero-Order Correlations among Depression and Relationship Satisfaction Variables

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Depressive Mood in 7th Grade	--													
2. Depressive Mood in 8th Grade	.52	--												
3. Depressive Mood in 9th Grade	.48	.58	--											
4. RS with Father in 7th Grade	-.30	-.22	-.21	--										
5. RS with Mother in 8th Grade	-.27	-.21	-.20	.67	--									
6. RS with Peers in 9th Grade	-.28	-.19	-.17	.34	.35	--								
7. RS with Teachers in 7th Grade	-.23	-.17	-.17	.39	.42	.32	--							
8. RS with Father in 8th Grade	-.20	-.29	-.19	.44	.31	.16	.22	--						
9. RS with Mother in 9th Grade	-.18	-.27	-.18	.32	.40	.19	.24	.69	--					
10. RS with Peers in 7th Grade	-.19	-.29	-.21	.20	.20	.33	.16	.34	.38	--				
11. RS with Teachers in 8th Grade	-.12	-.18	-.12	.16	.18	.11	.30	.35	.40	.27	--			
12. RS with Father in 9th Grade	-.17	-.21	-.22	.36	.24	.14	.17	.46	.31	.18	.15	--		
13. RS with Mother in 7th Grade	-.14	-.18	-.20	.23	.33	.14	.17	.26	.39	.19	.15	.62	--	
14. RS with Peers in 8th Grade	-.13	-.21	-.25	.17	.14	.22	.13	.15	.19	.36	.15	.32	.36	--
15. RS with Teachers in 9th Grade	-.09	-.09	-.14	.14	.14	.09	.28	.15	.18	.12	.35	.30	.30	.28

All significant, $p < .001$

Impact of Family Life Events

To examine the hypothesized model, the LISREL program (Jöreskog & Sörbom, 2002) was used. The chi-square statistic was used to evaluate the overall fit of the models. A nonsignificant chi-square value indicates good fit. However, because trivial differences between the predicted and observed matrices may result in a significant chi-square when large samples are used, we used other goodness-of-fit indices that are less dependent on sample size: the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the Tucker-Lewis index (TLI). Values greater than .90 on the CFI and TLI indexes and values less than .05 on the RMSEA were considered to indicate an acceptable fitting model.

Table 5. Structural Equation Models of Depression on Family Life Events and Relationship Satisfaction

	Depression						7th Grade							
	7th Grade		8th Grade		9th Grade		RS-Father		RS-Mother		RS-Peers		RS-Teachers	
	Est.	*β*	*Est.*	*β*	*Est.*	*β*	*Est.*	*β*	*Est.*	*β*	*Est.*	*β*	*Est.*	*β*
7th Grade														
Event 1	-.52	-.01	1.24	.01			-.12	-.01	-.09	-.01	-.25	-.03	-.17	-.02
Event 2	-.92	-.03	.57	.02			-.31***	-.09	-.24***	-.08	-.02	-.01	-.02	-.01
Event 3	.73	.02	-1.36	-.03			-.15	-.03	-.18*	-.04	-.14	-.04	.09	.02
Event 4	1.44**	.06	-.83	-.04			-.19**	-.07	-.09	-.04	-.08	-.03	-.07	-.03
Event 5	3.88***	.14	-.46	-.02			-.48***	-.16	-.67***	-.24	-.19***	-.07	-.33***	-.12
Event 6	2.14***	.11	.34	.02			-.13**	-.06	-.14***	-.08	.01	.00	-.10*	-.05
Event 7	.30	.01	-.75	-.02			-.07	-.02	.07	.02	.07	.02	-.13	-.03
Event 8	1.94***	.08	-.36	-.02			-.08	-.03	-.08	-.03	-.15**	-.06	-.09	-.04
Event 9	.78*	.04	.52	.03			.09*	.04	.08	.04	.01	.01	-.01	-.00
RS-Father	-1.31***	-.14	.18	.02										
RS-Mother	-.11	-.01	-.12	-.01										
RS-Peers	-1.80***	-.16	.10	.01										
RS-Teachers	-.59**	-.06	.05	.01										
Depression			.40***	.43										
8th Grade														
Event 1			-1.14	-.02	-1.42	-.03								
Event 2			-.36	-.01	-.35	-.01								
Event 3			.20	.01	.11	.00								
Event 4			1.10**	.05	-.53	-.02								
Event 5			1.83***	.09	.66	.03								
Event 6			1.16***	.07	.92**	.05								
Event 7			.55	.02	.12	.00								
Event 8			1.10***	.07	-.05	-.00								
Event 9			.40	.02	.28	.01								
RS-Father			-.72**	-.08	.02	.00								
RS-Mother			-.39	-.04	.10	.01								
RS-Peers			-1.36***	-.13	-.02	-.00								
RS-Teachers			-.27	-.03	.06	.01								
Depression					.49***	.41								
9th Grade														
Event 1					-1.45	-.02								
Event 2					-.77	-.02								
Event 3					-.56	-.02								
Event 4					-.41	-.02								
Event 5					2.66***	.10								
Event 6					.90*	.05								
Event 7					1.65*	.04								
Event 8					1.43***	.08								
Event 9					.10	.00								
RS-Father					-.26	-.02								
RS-Mother					-.30	-.03								
RS-Peers					-1.48***	-.11								
RS-Teachers					-.42	-.04								
Control Var.														
SEX	1.34***	.09	1.58***	.12	.34*	.04	-.11***	-.07	-.04	-.03	-.10***	-.07	-.03	-.02
CHILD	.01	.00	-.03	-.00	.49***	.41	.03	.03	.05**	.06	.01	.02	.02	.02

χ^2=564.92, *df*=232, *p* =0.000, RMSEA=.025, CFI=.98, LTI=.94, Model AIC=108251.37, BIC=107225.13

Table 5. (continued)

	8th Grade								9th Grade							
	RS-Father		**RS-Mother**		**RS-Peers**		**RS-Teachers**		**RS-Father**		**RS-Mother**		**RS-Peers**		**RS-Teachers**	
	Est.	*β.*	*Est.*	*β.*	*Est.*	*β.*	*Est.*	*β.*	*Est.*	*β.*	*Est.*	*β.*	*Est.*	*β.*	*Est.*	*β.*
7th Grade																
Event 1	.37	.03	-.38	-.04	-.21	-.02	-.41	-.04								
Event 2	-.16*	-.05	-.03	-.01	-.02	-.01	-.08	-.02								
Event 3	-.07	-.02	.03	.01	.01	.00	.03	.01								
Event 4	-.08	-.03	.01	.01	.01	.01	-.06	-.02								
Event 5	.07	.02	.09	.03	-.04	-.01	-.01	-.00								
Event 6	.04	.02	-.02	-.01	-.06	-.03	-.02	-.01								
Event 7	-.09	-.02	-.04	-.01	-.06	-.02	.07	.02								
Event 8	-.06	-.02	-.05	-.02	-.10*	-.04	-.00	-.00								
Event 9	.04	.02	-.06	-.03	.01	.01	.07	.03								
RS-Father	.34***	.35														
RS-Mother			.33***	.33												
RS-Peers					.30***	.30										
RS-Teachers							.26***	.26								
Depression																
8th Grade																
Event 1	-.14	-.03	-.36***	-.07	-.27**	-.06	-.09	-.02	-.05	-.01	.02	.00	.11	.03	-.13	-.03
Event 2	-.34***	-.09	-.21**	-.06	.04	.01	-.04	-.01	-.25***	-.07	.00	.00	-.04	-.01	.03	.01
Event 3	-.08	-.02	-.01	-.00	.00	.00	.02	.01	-.02	-.01	-.03	-.01	.00	.00	.06	.02
Event 4	-.19***	-.08	-.15**	-.06	-.05	-.02	-.08	-.03	-.11*	-.05	-.06	-.03	-.06	-.03	-.04	-.02
Event 5	-.39***	-.16	-.39***	-.17	-.18***	-.08	-.21***	-.09	-.03	-.01	-.03	-.02	.00	.00	-.05	-.02
Event 6	-.11**	-.06	-.09*	-.05	.08*	.05	-.04	-.02	.01	.00	-.02	-.01	.00	.00	-.04	-.03
Event 7	.08	.02	.09	.02	.08	.02	-.10	-.02	-.08	-.02	-.00	-.00	.10	.03	.07	.02
Event 8	-.04	-.02	-.06	-.04	-.17***	-.11	-.02	-.01	.01	.01	-.01	-.00	.07*	.05	.02	.01
Event 9	.01	.00	.03	.01	-.01	-.01	-.03	-.01	-.05	-.02	-.02	-.01	.00	.00	-.02	-.01
RS-Father									.36***	.38						
RS-Mother											.30***	.32				
RS-Peers													.30***	.33		
RS-Teachers															.26***	.29
Depression																
9th Grade																
Event 1									-.03	-.01	.09	.02	.17	.03	.11	.02
Event 2									-.20**	-.05	-.05	-.01	-.05	-.02	-.024	-.01
Event 3									-.02	-.01	.03	.01	.09*	.04	-.02	-.01
Event 4									-.10	-.04	-.03	-.01	-.05	-.03	.11*	.05
Event 5									-.38***	-.16	-.40***	-.18	-.08	-.04	-.18***	-.08
Event 6									-.07	-.04	-.07	-.04	-.05	-.03	-.06	-.04
Event 7									-.08	-.02	-.07	-.02	-.08	-.02	-.04	-.01
Event 8									-.04	-.03	.01	.01	-.06*	-.04	-.09**	-.06
Event 9									.06	.03	.01	.01	-.03	-.02	-.02	-.01
RS-Father																
RS-Mother																
RS-Peers																
RS-Teachers																
Control Var.																
SEX	-.03	-.02	.01	.01	-.08**	-.06	.05	.03	.01	.01	.06*	.05	-.03	-.03	.00	.00
CHILD	.04*	.04	.03	.03	.05***	.07	.01	.01	-.00	-.00	.00	.00	.02	.02	.04*	.05

Event 1: Father or mother died, Event 2: Parents divorced or separated, Event 3: Father or mother unemployed,
Event 4: Father or mother increasingly not at home, Event 5: Parents quarrel more often,
Event 6: I quarrel with my parents more often, Event 7: I have been sick or badly hurt,
Event 8: A relative died, Event 9: My family has become poorer

Results from the path analysis (Table 5) indicated that the hypothesized model provided an acceptable fit to the data, χ^2 (232, N = 2386) = 564.92, p = 0.000; RMSEA = .025, CFI = .98, and LTI = .94. We further arranged the results of the impact of each family life event into Table 6. Those family life events, such as 'Father or mother increasingly not at home,' (β = .06 & .05 at 7th and 8th grades, p < .01) 'Parents quarrel more often,' (β = .14, .09, & .10, p < .001) 'I quarrel with my parents more often,' (β = .11, .079, & .05, p < .05) and 'A relative died,' (β = .08, .07, & .08, p < .001) predicted significant but only temporary impact on adolescents' depression, such that adolescents who were confronted with those family life events reported higher levels on depression. 'I have been sick or badly hurt' (β = .04, p < .05) predicted significantly temporary impact on adolescents' depression only at 9th grade, and 'My family has become poorer' (β = .04, p < .05) predicted significantly temporary impact on adolescents' depression only at 7th grade. Only 'I quarrel with my parents more often' showed a continuing impact on depression from 8th grade to 9th grade (β = .05, p < .01). However, 'Father or mother died,' 'Parents divorced or separated,' or 'Father or mother unemployed' did not predict adolescents' depression, either temporary or continuing. In additive, no significant lagged impact was found.

The temporary impacts of family life event on relationship satisfaction are noticeable (see Table 6). 'Father or mother died' deteriorated adolescents' satisfaction with mother (β = -.07, p < .001) and peers (β = -.06, p < .01) only at (in) 8th grade, 'Parents divorced or separated' deteriorated adolescents' satisfaction with father (β = -.09, -.09 & -.05, p < .01) and mother (β = -.08 & -.06 at 7th and 8th grades, p < .01), 'Father or mother unemployed' deteriorated adolescents' satisfaction with mother (β = -.04, p < .05 at 7th grade), but increased their satisfaction with peers (β = .04 at 9th grade, p < .05), 'Father or mother increasingly not at home,' deteriorated adolescents' satisfaction with father (β = -.07 & -.08, p < .01 at 7th and

8th grades), but increased their satisfaction with teachers (β = .05 at 9th grade, p < .05). Particularly, 'Parents quarrel more often' deteriorated adolescents' satisfaction with father (β = -.16, -.16 & -.16, p < .001), mother (β = -.24, -.17 & -.18, p < .001), peers (β = -.07 & -.08, p < .001 at 7th and 8th grades), and teachers (β = -.12, -.09 & -.08, p < .001). 'A relative died' deteriorated adolescents' satisfaction with peers (β = -.06, -.11 & -.04, p < .05) and teachers (β = -.06, p < .01 at wave 3), 'My family has become poorer' increased adolescents' satisfaction with father (β = .04 at wave 1, p < .05). However, 'I have been sick or badly hurt' did not predict significantly impact on adolescents' relationship satisfaction.

Direct and Indirect Impact of Relationship Satisfaction

The impact of relationship satisfaction on adolescents' depressive mood varied according different targets. Relationship satisfaction with father (β = -.14 & -.08, p < .01 at 7th and 8th grades), with peers (β = -.16, -.13, & -.11, p < .001), with teachers (β = -.06, p < .01 at 7th grade) predicted significantly negatively influence on depression. These negative coefficients indicted that as perceived satisfaction with father, peers or teachers increased, adolescents reported that depression decreased. However, there was no significant effect of relationship satisfaction with mother on adolescents' depression.

There were several mediating effects and an interesting intervening effect among family life events, relationship satisfaction, and depression. Relationship satisfaction with father, peers, and teachers showed a mediating effect between the event 'Parents quarrel more often' and depression; this event directly, and indirectly through decreased satisfaction with father, peers and teachers, increased adolescents' depressive mood. Relationship satisfaction with father also mediated the connect between 'Father or mother increasingly not at home' or 'I quarrel with my parents more often' and depression. Relationship satisfaction with peers

mediated the connection between ‘A relative died’ and depression. Especially notable was the fact that relationship satisfaction with father showed an intervening and continuing effect between ‘Parents divorced or separated’ and depression, indicated that even though parents being divorced or separated had no direct impact on depression, this event decreased satisfaction with father and indirectly increased adolescents’ depressive mood. However, relationship satisfaction with mother showed neither mediating nor intervening effect.

Depression and Relationship Satisfaction Stability

The stability coefficients for each of the depression and four satisfaction variables measured across time were positive and highly significant (for depression, $\beta = .43$ & $.41$, $p < .001$; for satisfaction with father, $\beta = .35$ & $.38$, $p < .001$; for satisfaction with mother, $\beta = .33$ & $.32$, $p < .001$; for satisfaction with peers, $\beta = .30$ & $.33$, $p < .001$; for satisfaction with teachers, $\beta = .26$ & $.29$, $p < .001$).

Table 6. Short-Term, Lagged, or Continuing Effect of Family Life Events.

	FLE→Dep			FLE→RS (Short-Term)			
Stressful Family Life Events	Short-Term	Lagged	Continuing	RS-Father	RS-mother	RS-Peers	RS-Teachers
Father or mother died					G8	G8	
Parents divorced or separated				G7,G8,G9	G7,G8		
Father or mother unemployed					G7	G9[a]	
Father or mother increasingly not at home	G7,G8			G7,G8			G9[a]
Parents quarrel more often	G7,G8,G9			G7,G8,G9	G7,G8,G9	G7,G9	G7,G8,G9
I quarrel with my parents more often	G7,G8,G9		G8→G9	G7,G8	G7,G8	G8[a]	G7,G8,G9
I have been sick or badly hurt	G9						
A relative died	G7,G8,G9					G7,G8,G9	G9
My family has become poorer	G7			G7[a]			

[a] contrary

G7: 7th grade, G8: 8th grade, G9: 9th grade

Discussion

This study examined the temporary and continuing impact of family life event and the mediating effect of relationship satisfaction between family life event and depression. Based on community surveys with panel data, we developed three hypotheses (Short-Term Impact, Lagged Impact, and Continuing Impact Hypothesis) to confirm the impact of a family life event and two hypotheses (Mediating and Intervening Hypotheses) to examine the influence of relationship satisfaction on the association between family life events and depression.

The effect of each family life event on adolescents' depression was manifold. We found four patterns of the effect. 1. Short-term impact included (1) short-term impact shown at all three points of measuring family events like 'Parents quarrel more often,' ' I quarrel with my parents more often,' and 'A relative died; (2) short-term impact shown at one or two of the three points of measuring family events like 'Father or mother increasingly not at home,' 'I have been sick or badly hurt,' and 'My family has become poorer.' 2. Partial long-term impact was shown in the family event 'I quarrel with my parents more often.' 3. Lagged effect was not found. 4. Neither short- nor long-term direct effect was found in the family events like 'Father or mother died,' 'Parents divorced or separated,' and 'Father or mother unemployed.'

The effect of each family life event on adolescents' relationship satisfaction was also multiple. There were also four patterns of the effect. 1. Almost only short-term impact included first, the short-term impact shown at all three measuring points of family life events, such as 'Parents divorced or separated,' or 'Parents quarrel more often,' on adolescents' satisfaction with their fathers; of the family life event 'Parents quarrel more often' on adolescents' satisfaction with their mothers and teachers; of the family life event 'A relative died' or 'I quarrel with my parents more often,' on adolescents' satisfaction with their peers;

secondly, short-term impact was shown only at one or two of the three points of measuring family events, such as 'Father or mother increasingly not at home' or 'I quarrel with my parents more often Parents divorced or separated,' on adolescents' satisfaction with their fathers; of measuring family events, such as 'Father or mother died,' 'Parents divorced or separated,' 'Father or mother unemployed,' or 'I quarrel with my parents more often,' on adolescents' satisfaction with their mothers; of measuring family events, such as 'Father or mother died' or 'Parents quarrel more often,' on adolescents' satisfaction with their peers; of the measuring family event 'A relative died' on adolescents' satisfaction with their teachers. 2. Continuing impact included first continuing impact shown at all three measuring points of family life events, such as 'Parents divorced or separated,' on adolescents' satisfaction with their fathers; secondly, continuing impact shown at one or two of the three points of measuring family events, such as 'Father or Mother increasingly not at home,' on adolescents' satisfaction with their fathers. 3. Lagged effect was also not found. 4. Neither short- nor long-term direct effect on adolescents' satisfaction with their parents, peers, or teachers was found in the family event 'I have been sick or badly hurt'.

The effect of relationship satisfaction on depression was neither lagged nor continuing, but short-term. In the cases of adolescents in the 7th and 8th grade, the higher their satisfaction with their fathers, the lower their depression. At all three measuring points of adolescents' satisfaction with their peers, the higher their satisfaction with peers, the lower the depression. In the 7th grade, the higher adolescents' satisfaction with their teachers, the lower their depression. However, adolescents' satisfaction with their mothers did not show any impact on depression.

Both mediating and intervening effects were found. Adolescents' satisfaction with their fathers showed mediating effect on the relationship between depression and the event 'Father

or mother increasingly not at home,' 'Parents quarrel more often,' or 'I quarrel with my parents more often.' Adolescents' satisfaction with peers mediated the relationship between depression and the event 'Parents quarrel more often' or 'A relative died.' Adolescents' satisfaction with teachers mediated the relationship between depression and the events 'Parents quarrel more often' and 'I quarrel with my parents more often.' Moreover, only adolescents' satisfaction with their fathers showed an intervening effect between the event 'Parents divorced or separated' and adolescents' depression.

The family events examined in this study can be classified as follows: death, divorce, quarrel, economic problem, physical problem, and parents' abscences. Generally speaking, death and divorce are critical family life events, which are expected to have long-term negative impact on adolescents' mental health. This study discovers, however, that they have only short-term impact. Parents' deaths have even been found to have almost no impact. That the impact of parents' deaths seems nonsignificant probably because the community-based data we have collected in this respect are very much limited and deficient. This is an issue to be further addressed in future research. Quarrels between parents and those between parents and adolescents seem to have more significant impact on adolescents' mental health and interpersonal relationship. Other problems such as economic problem, physical problem, and parents' absences have been shown to have limited impact. More remarkably, Parents' divorce might not have direct impact on adolescents' depression, but they might cause long-term, indirect negative impact owing to adolescents' discontent with their fathers.

Finally, the result of this study shows that fathers and peers are very important to adolescents. While teachers are also important to adolescents, mothers seem to have almost none impact on adolescents. We will then probably need to rethink what roles mothers play in relation to adolescents' mental health and interpersonal relationship.

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