

The Interlocking Trajectories between Parenting Practices and Adolescent
Depressive Symptoms in Taiwan

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Abstract

The escalating prevalence of depression during adolescence has already generated numerous studies globally. Identically, the rapidly rising prevalence of adolescent's depressive symptoms in contemporary Taiwan has also drawn increased research attention among Taiwanese researchers. Adolescence corresponds to a usually vulnerable stage of development in the pre-adult years. This period is indicated by rapid physical growth and psychological change. It is also manifested by expanding roles into more complicated social world that expose adolescent for the first time to a widening display of stressors and life-shaping choices. Adolescents and their families are considered bound together by shared experiences and consequences. Committed, nurturant parents increase likelihood for family relations of similar quality. Conversely, self-destructive, unstable parents frequently have unstable relationships with their offspring. This mutual interdependence can be expressed in a dual perspective of life course dynamics that people are changed by changing families, and that families are changed by changing the behavior and developmental course of family members. Nonetheless, the extent and nature of the links appears to be quite complicated and still is not yet fully explored. Several issues remain and need to be further addressed regarding the family context and, in particular, interdependence between the parenting practices and the emotional well-being of adolescents.

In this study, I investigate such interdependence across two generations with the intention of testing the proposition that harsh parenting signify mutually reinforcing dynamics cross the adolescence, and persist from one adolescent time period to the next through a pathway of interlocking trajectories. Theoretically, both the dynamics and their continuation across the generations are subject to wide variation in relation to life circumstances. In this study, I am interested in the conditions of stability (or persistence) and in the conditions of variation (or change) whereby the interdependent chain is altered. This study brings in a line of research within a life course theoretical framework that emphasized the behaviors across life span. This line of inquiry focuses on behavioral continuities and discontinuities; the course of history of behavior patterns, personalities, and social relationships within the life span of an individual.

Using data from a seven-year long-term project funded by National Health Research Institute (NHRI) on adolescent drug abuse and by applying Latent growth curve

modeling (LGC), this study found that the linkages between parenting practices and adolescent depressive symptoms in a dynamic approach. Parallel to previous findings, this study catches the static association (in mean level) between parenting practices and adolescent depressive symptoms. In addition, using LGC model, this study also is able to capture the dynamic association (in terms of slope) between parenting practices and adolescent depressive symptoms. Issues related to adolescent's depressive symptom and mother's harsh parenting are discussed in a more detail way in this study.

Introduction

The escalating prevalence of depression during adolescence has already generated numerous studies (Compas, Ey, & Grant, 1993; Ge, Lorenz, Conger, Elder, & Simons, 1994; Radloff, 1991; Overbeek et. Al., 1999) globally. Identically, the rapidly rising prevalence of adolescent's depressive symptoms in contemporary Taiwan has also drawn increased research attention among Taiwanese researchers (Wu and Li, 2002; Mu, Pei-fan et al., 2001). Adolescence corresponds to a usually vulnerable stage of development in the pre-adult years. This period is indicated by rapid physical growth and psychological change. It is also manifested by expanding roles into more complicated social world that expose adolescent for the first time to a widening display of stressors and life-shaping choices. Many empirical studies found that most adolescents pass through this transitional period without significant difficulties; however, numerous young children still experienced maladaptive responses to the biological, psychological and social changes of their adolescent years (Ge, Lorenz, Conger, Elder, & Simons, 1994; Rutter, 1986). Considerable evidence indicates that both intra-personal and inter-personal factors serve as sources of adolescent's psychological distress (Downey & Coyne, 1990; Phares & Compas, 1992). Among these influential factors, the context of family is often regarded as a crucial origin of adolescent's psychological distress (Conger & Elder, 1994). Adolescents and their families are considered bound together by shared experiences and consequences. Committed, nurturant parents increase likelihood for family relations of similar quality. Conversely, self-destructive, unstable parents frequently have unstable relationships with their offspring (Elder, 1984). This mutual interdependence can be expressed in a dual perspective of life course dynamics that people are changed by changing families, and that families are changed by changing the behavior and developmental course of family members (Elder, Caspi, & Downey, 1996). Nonetheless, the extent and nature of the links appears to be quite complicated and still is not yet fully explored. Several issues remain and need to be further addressed regarding the family context and, in particular, interdependence between the parenting practices and the emotional well-being of adolescents.

In this study, I investigate such interdependence across two generations with the intention of testing the proposition that harsh parenting signify mutually reinforcing dynamics cross the adolescence, and persist from one adolescent time period to the next through a pathway of interlocking trajectories. Theoretically, both the dynamics and their continuation across the generations are subject to wide variation in relation to life circumstances. In this study, I am interested in the conditions of stability (or

persistence) and in the conditions of variation (or change) whereby the interdependent chain is altered. This study brings in a line of research within a life course theoretical framework that emphasized the behaviors across life span. This line of inquiry focuses on behavioral continuities and discontinuities; the course of history of behavior patterns, personalities, and social relationships within the life span of an individual (Elder Caspi, & Downey, 1996).

Life course perspective on interlocking

A major issue in recent years concerns the extent to which adolescent trajectories are determined by the course of early life experiences. Brim and Kagan (1980) stress, regarding the flexibility of life span development, that many individuals preserve a great capacity for change, and the consequences of the events of early childhood are continually transformed by later experiences, making the course of human development more “unlocked” than anyone can envision. Consistent with this standpoint, studies show that various forms of problem behavior through adolescence do not necessarily predict a problematic future (Vaillant, 1983). Self-regulating mechanisms set an upper bound on observed continuity (Elder Caspi, & Downey, 1996). Yet, questions of continuity are besieged by methodological difficulties. Instead of intending to obtain some overall estimate for continuity in behavioral development, this study employs a more useful strategy that to ask in what part of life and under what conditions this continuity sustains.

Often the continuity of behavioral development are the actual mechanisms by which adolescent initially acquire problematic characters. Most theoretical frameworks locate the origins of problem characters in the family. This study tries to focus on the dynamics of intergenerational linkages, a process that bears directly upon the puzzle of how the continuity is possible. Intergenerational linkages represent a potential source of continuity and integration in the middle of an ever-moving stream of family members. The younger generation lives in the shadow of the parent generation, a shadow marked perhaps by violent tendencies. In this study, I intend to figure out the circumstances under which adolescent maladjustment occurs and its influences persist across the course of adolescence.

Methods

Data analysis

The data used in this study comes from a three-year long-term project funded by National Health Research Institute on adolescent drug abuse. This project started in 1996. Its subjects of study are students of Taipei public and private secondary schools. It is a follow-up study-tracking subject for a long period of time. Data collected through questionnaire, including students, teachers and parents. Up to 2001, this project finished continuous data collection for five consecutive years. This article only analyzed data from the first three years' survey while respondents were still in secondary school.

Based on the study body of 86 public and private secondary schools in Taipei, this study adopted "stratified random sampling" method. According to proportion of school in each of the 12 administrative areas of Taipei, at the first stage, 2 to 4 schools are sampled; at second stage, 1 to 2 classes are sampled from each sampled school based on student ratio. In total, 33 middle schools, 44 classes and 1,434 junior high students were sampled. Mplus....

Measures

Adolescent Depression

This study employed the Symptom Checklist-90-Revised (SCL-90-R, Derogatis, 1983) to measure adolescent's depressive symptoms. It included 47 behavior items measuring how frequently various depressive symptoms such as headache, trouble falling asleep and sad, which rate on 5-point scale from 1 (never) to 5 (often time) of themselves during the past week. The 47 items were summed to create a depression symptom score. The Cronbach alpha for this scale ranged from .95 to .96.

Harsh parenting

Harsh parenting consisted four items for adolescents self-report. The four items were as follows: (a) "When you did something wrong, how often did your mom lose her temper and yell at you?" (b) "When you did something wrong, how often did your mom spank or slap you?" (c) "When punishing you, did your mom ever hit you with a belt, paddle, or something else?" (e) "When you did something wrong, how often did your mom tell you to get out or lock you out of the house?" Response categories ranged along a 5-point continuum (1=never, 3=about half the time, and 5=always).

Method of analysis

This article is on a three-year longitudinal study of depressive symptom and harsh parenting interlocking relationship. In the study, Latent growth curve modeling

(LGC) treats the intercept (initial levels) and slope (rates of change) of constructs as latent variable. Measurements of the variable of depressive symptom and harsh parenting at different points in time (par t_1 , par t_2 , par t_3 ; dep t_1 , dep t_2 , dep t_3) are used as indicators of the two constructs. The Mplus 2.22 program was used for our illustrative LGC modeling. The model used to generate maximum-likelihood estimates and missing value treated to listwise.

Results

Table 1 indicated that overall, adolescents' scores of depressive symptom increased steadily during these three-year panel study period (i.e., from 7th grade through 9th grade). Especially, there is a significant increase between Time2 and Time3 (correspond to 8th grade and 9th grade). Part of the reasons is that most of the respondents have to participate in a highly competing High School Entrance Exam to be qualified to attend general high schools (Yi and Wu, 2003). Interestingly, the overall harsh parenting of respondents' mothers has decreased slightly for the three-year survey period though the differences insignificantly. However, the accumulation of differences at mean level among three time periods cannot reflect the exact changes at the individual level (Wickrama, 1997). From Table 1, one can only detect the information about long-term change at the aggregate level. The other information Table 1 has signified is that mothers' harsh parenting is more stable than adolescents' depressive symptoms.

Table 1. Descriptive Statistics of Study Variables

Variable	Boys		
	n	M	SD
Degree of depression at Time 1	1434	61.31	17.02
Degree of depression at Time 2	1354	62.82	19.15
Degree of depression at Time 3	1304	65.48	21.80
Degree of harsh parenting with mother at Time 1	1414	5.82	2.62
Degree of harsh parenting with mother at Time2	1342	5.67	5.54
Degree of harsh parenting with mother at Time 3	1293	5.52	2.30

Note: n = number of case; M = mean; SD =standard deviation.

Table 2 specified the zero-order correlations among depressive symptom and harsh parenting across three time period. Table 2 showed that both depressive symptom and harsh parenting are reliable measures across time since the correlation coefficients among those measures are reasonably strong (.51, .43, and .61 for depressive symptom across three waves; .53, .49, and .61 for harsh parenting across three waves respectively). Further, the correlation coefficients among depressive symptom and harsh parenting of three wave are also all significant at $p = .01$ level (see Table 2 for detail). Table 2 suggested that there existed some kind of mutual relationship between adolescent's depressive symptom and mother's harsh parenting, and these relationship lasted for a rather long-term period.

Table 2. Correlation Matrix of Study Variables

	1.00					
	.51**	1.00				
	.43**	.61**	1.00			
	.24**	.17**	.08**	1.00		
	.21**	.25**	.12**	.53**	1.00	
	.15**	.21**	.17**	.49**	.61**	1.00

** $P < .01$, $N = 1,273$

- : Degree of depression at Time 1
- : Degree of depression at Time 2
- : Degree of depression at Time 3
- : Degree of harsh parenting with mother at Time 1
- : Degree of harsh parenting with mother at Time 2
- : Degree of harsh parenting with mother at Time 3

Based on the information provided by Table 1 and Table 2, this study went on to do a series of analyses on Latent Growth Curve Models (LGC model) in a manner to intend to reveal the "latent trait" of the relationship between depressive symptom and harsh parenting practices. First of all, Table 3 showed that adolescent's depressive symptom fitted very well in an independent LGC model (i.e., model only including level and slope, the two latent constructs, of depressive symptom). The structure mean and variance of level for depressive symptom are all statistically significant (.45 for mean and .29 for variance, respectively). It stands for the average initial score of depressive symptoms for the whole respondents is .45 with a .29 variance. On the other hand, the structure mean and variance of slope for depressive symptom are also

statistically significant (14.72 for mean and 8.04 for variance, correspondingly). It indicates the average change rate of depressive symptoms for the whole respondents is 14.72 with an 8.04 variation. In terms of statistics, the Chi-square with 1 degree of freedom for this model is 2.07 and it's not significant, which means the data fit the model pretty well. The ϕ coefficient equal to -.04 and is not significant, which means the initial status of adolescent's depressive symptom did not correlate with the changing velocity of adolescent's depressive symptom. In other words, adolescent with high initial score of depressive symptom did not necessary get worse than any others in an escalated way and vice versa.

Second, for mother's harsh parenting, Table 3 showed that the data also fitted the LGC model well (Chi-square with 1 degree of freedom equal to .01, insignificant). The structure mean and variance of level for harsh parenting are statistically significant (.07 for mean and .03 for variance, respectively). It stands for the average initial score of harsh parenting for the whole respondents' mothers is .07 with a .03 variance. Alternatively, the structure mean and variance of slope for harsh parenting are also statistically significant (.32 for mean and .13 for variance, correspondingly). It implies the average change rate of harsh parenting for the mothers is .32 with an .13 variation. The ϕ coefficient for harsh parenting LGC model is -.36 and is statistically significant, which means the initial status of mothers' harsh parenting did correlate with the changing pace of their negative parenting practices. This means that mothers with high initial score of harsh parenting usually own a more stable pattern in parenting practices than others (mothers with lower initial status of harsh parenting are more likely to get "harsher" toward their kids). The findings are very interesting. I'll discuss this in a more detail manner later.

Table 3. Summary for independent LGC models

	Factor loading			Level		Slope		n	χ^2	ϕ
	T1	T2	T3	Mean	Variance	Mean	Variance			
Depressive symptom	0	1	2	0.45*	0.29*	14.72*	8.04*	1,300	2.07	-.04
Harsh parenting	0	1	2	0.07*	0.03*	0.32*	0.13*	1,273	0.01	-.36*

Note: All intercept factor loadings are setting 1, *P<.05

Figure 1 displays the analytic results of an integrated LGC model. The data also fitted the model very well, although its p-value is less than .05, the rest indices of model fitting are on reasonable range (Chi-square = 24.113, with 7 degree of freedom, RMSEA = .04). Figure 1 indicates that the initial status (level) of adolescent's depressive symptom is highly correlated with the initial status (level) of mother's harsh parenting practices ($\phi = .45, p < .05$), which means adolescent with high depressive symptom at the 7th grade (first wave survey) are more likely to have a mother used to do harsh parenting. Consistent with Table 3, Figure 1 also shows that the initial status of adolescent's depressive symptom did not correlate with the changing velocity of adolescent's depressive symptom ($\phi = .10, p > .05$). Conversely, Figure 1 indicates that the initial status of mothers' harsh parenting did correlate with the changing pace of negative parenting practices ($\phi = -.23, p < .05$). Further, the level (initial status) of adolescent's depressive symptom has a negative direct effect on mother's slope (changing pace) of harsh parenting ($r = -.25, p < .05$), which means adolescent with higher initial status of depressive symptoms tends to have a mother with stable harsh parenting style. On the other hand, mother's initial status of harsh parenting also has a directly negative effect on adolescent's changing rate of depressive symptoms ($r = -.23, p < .05$), which could mean that adolescent with a harsh parenting mother is more likely to stay at high level of depressive symptoms. In other words, with a harsh parenting mother at home will keep her kids stay at high level of depressive symptoms for a longer time and it won't change dramatically. The most important finding of Figure 1 is on the relationship between the slope of depressive symptom and the slope of harsh parenting ($\phi = .42, p < .05$). It means that the changing pace of mother's harsh parenting is parallel with the changing velocity of adolescent's depressive symptom in a very significant way. It could mean that any change on mother's harsh parenting practices might "cause" change on adolescent's depressive symptoms, although, this study did not intend to argue the possible causal mechanism between this two critical subjects. All in all, Figure 1 indicates that the growth curve of adolescent's depressive symptom is clearly interlocking with the changing of mother's harsh parenting. Why it comes out this way, definitely deserves further investigation.

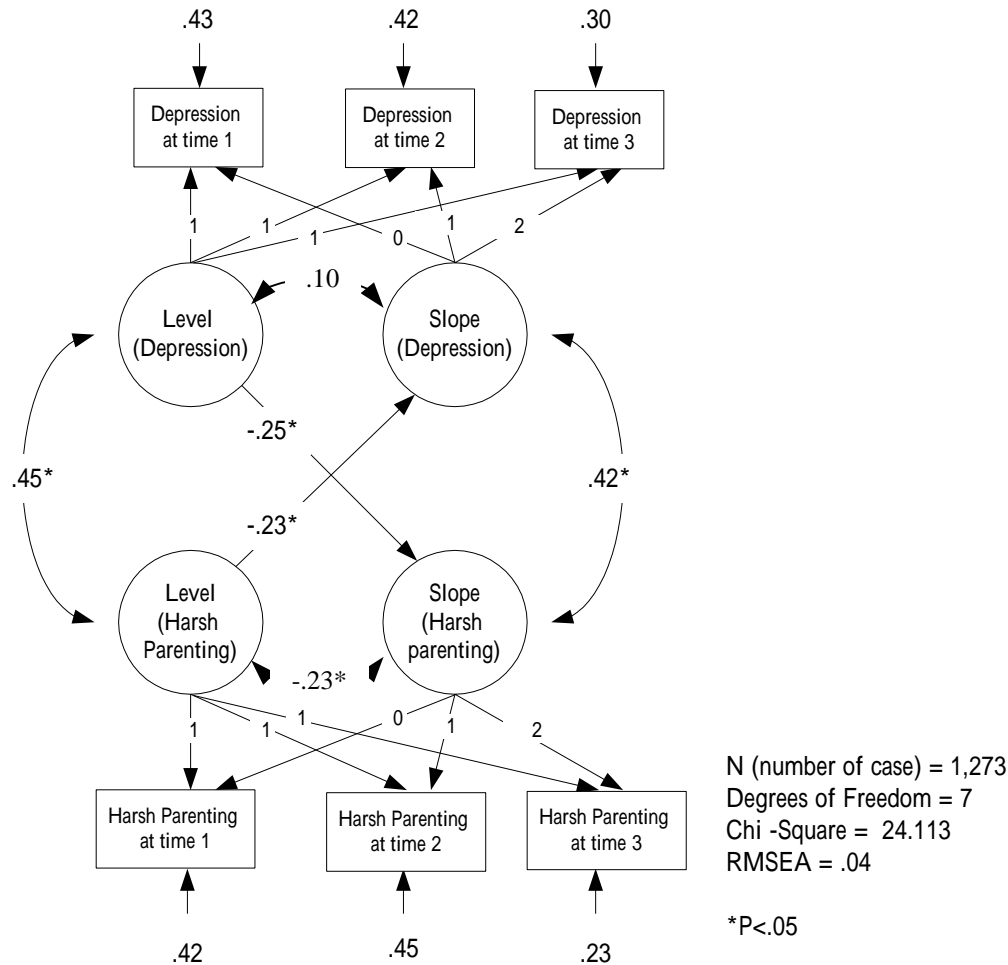


Figure 1. Latent growth model for theoretical framework

Summary and Discussion

There has been some debate about the relative contribution of parenting behavior versus child individual differences to the development of childhood symptomatology (Dodge, 1990; Lytton, 1990). Rather than simply comparing parenting effects against child effects, transactional and goodness of fit models recognize that both are influential, and that integrating parent and child effects into one theoretical model may better explain the development of symptomatology (Sameroff, 1995; Thomas & Chess, 1977). An abundance of empirical evidence suggests that poor parenting practices have associated with depressive outcomes in children. Parental neglect and rejection, lack of positive reinforcement and involvement, and extreme control have been associated childhood depression (Burbach & Borduin, 1986; Cole & Rehm, 1986; Stark, Humphrey, Crook, & Lewis, 1990). Further, children with parents who are uninvolved and unsupportive, and children who are subjected to intense negative

experiences (such as harsh discipline) may develop a negative schema of the self world, resulting in selective attention to negative events, avoidance, social withdraw, and, more seriously, depression (Rehm, 1977; Stark et.al., 1990).

Truly convincing, these empirically findings have already specified the possible association between parenting practices and adolescent's depressive symptoms. However, most of these findings are based on cross-sectional data, which can only detect the association in a static perspective since it has only one wave data. In a LGC model technical term, these findings only specified the links between the "level" parts of harsh parenting and depressive symptom (i.e., the left side part of Figure 1). They are not able to detect the dynamic relationship between harsh parenting and depressive symptom. In other words, the interlocking trajectories between parenting practices and adolescent depressive symptoms were overlooked by most previous studies. While, the interlocking trajectories between parenting practices and adolescent depressive symptoms may serve as the core of the theoretical framework that can better capture the origins of adolescent's behavioral development.

Using data from a panel design longitudinal study across three years, this study is able to specify the linkages between parenting practices and adolescent depressive symptoms in a dynamic approach. Parallel to previous findings, this study catches the static association (in mean level) between parenting practices and adolescent depressive symptoms. In addition, using LGC model, this study also is able to capture the dynamic association (in terms of slope) between parenting practices and adolescent depressive symptoms. One might raise a question, that is, how to interpret the dynamic interlocking trajectories? It's not easy to answer, however, from the perspective of life course theory, I would argue that for each other, adolescent's depressive symptom and mother's harsh parenting can serve as an ongoing life event. Life event is a critical factor to cause individual's changes in daily lives (Wu & Li, 2002). One can imagine that under stable situation of harsh parenting on daily base, adolescent might accumulate develop depressive symptom. Later, at one day he or she might become depressed and this could turn out to be a life event for their parents. Facing a depressed child, a mother might need to alter her parenting practices in order to improve (or worsen) her child's depressive symptoms. The scenario can be reversed. In any case, a change in one side could cause a change in the other side in a continued manner and this is the basic relation dynamic between adolescents and their mothers. This scenario is one of the possible outcomes of the interlocking trajectories between parenting practices and adolescent's depressive symptoms.

References

Derogatis, L. R. (1983). *SCL-90-R administration, scoring, and procedure manual-II*. Towson, MD: Clinical Psychometric Research.

28, 17-33.