Parental Conflict, Marital Disruption and Taiwanese Adolescent Embeddedness in Support Networks

En-Ling Pan
epan@ntnu.edu.tw
Department of Human Development and Family Studies
National Taiwan Normal University
No. 162 Hoping E. Road, Sec. 1, Taipei 106, Taiwan

and

Chin-Chun Yi
chinyi@gate.sinica.edu.tw
Institute of Sociology
Academia Sinica
128, Sec. 2 Academia Rd., Taipei 115, Taiwan

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Adolescence is a physical, psychological, and social developmental period. The tasks of this life course for adolescents are to look for an identity, and become emotionally self-sufficient and autonomous from parents. Adolescents start to expand their social relations and spend more time with extra-familial people, such as friends, classmates, teachers, coaches, or other adults. On the other hand, they also begin to emphasize privacy and symbolically may close their bedroom doors at home. Adolescents use these activities to establish their sense of self and identity, and to draw a boundary between themselves and their parents and families. Friends are another important socialization context and source of support for adolescents. Girls are more likely to have long talks by phone with their girlfriends, and boys may indulge in computer games or internet, or play sports with friends. Although adolescents spend more time with friends and emotional closeness with parents declines and conflict increases, parents are still the major support for adolescents while they face the stresses of growing up (Larson & Richards, 1994).

In the past three decades a tremendous amount of research has focused on the impact of parental divorce on children's well-being. Children of divorce show lower levels of psychological well-being, academic performance, self-esteem, parent-child relationships, and are more likely to be delinquents (Amato & Keith, 1991; Amato, 2001). Furthermore, as these children grow into adulthood, they may still be affected by family disruption, and either be delayed in moving into the next stage of the life course (Wallerstein, Lewis, & Blakeslee, 2000), cohabitate, marry or have a child at an earlier age, or get divorced themselves (Spruijt & De Goede, 1997). As

we know, not all of two-parent families are harmonious and well-functioning. Previous research indicates that adolescents living in two-parent families with high parental conflict tend to have poorer well-being and experience more negative life events than those in divorced families (Mechanic & Hansell, 1989; Pan, Chang & Hsieh, 2004). Furthermore, parental divorce or separation may be beneficial to the well-being of adolescents who have experienced high parental conflict (Jekielek, 1998). Considering the long-term effects, in high conflict families, children also have better well-being in early adulthood if their parents divorced than those whose parents remained married (Amato, Loomis, & Booth, 1995).

Although the effects of marital disruption and parental conflict on adolescents are clear, little is known about how the dynamics of support networks influence the change of well-being of adolescents with parental conflict and divorce from early to late adolescence. Thus, in the present study, based on parents' self-reported the conflict with their spouses and marital status, we divided adolescents into three groups: Adolescents without parental conflict, adolescents with parental conflict, and adolescents with divorced or separated parents over time. Using Latent Growth Curve Modeling Procedures, we examined the effects of support networks (family and friend) on the depression when adolescents were in 7th, 9th and 12th grades of high school. We investigated the following research questions:

1. Are the initial levels (intercept) of support networks and depression varied by groups ?
2. Are the rates of increase (slope) in support networks and depression varied by groups?
3. Are the initial levels related to the rates of increase?
4. Do the initial levels of support networks relate to the initial levels of depression?
5. Do the rates of increase in support networks relate to the rates in depression?

6. Do the initial levels of support networks affect the rates of change in depression?
7. Do the initial levels of depression affect the rates of change in support networks?

Methods

Sample

Data for these analyses draw from the Taiwan Youth Project (the Institute of Sociology, Academic Sinica, Taiwan). This project is an eight-year longitudinal research with eight-wave surveys scheduled from 2000 to 2007. It consists of two-cohort adolescents: 2696 1st graders of the junior high, and 2890 3rd graders of the junior high in 2000. In addition, one of their parents and their head master of the class were interviewed at the same year. In order to explore the growth trajectory of the youth, the research design focuses on three main social mechanisms of adolescent development: family, school and community, and how these mechanisms interplay.

The Taiwan Youth Project used a school-based, stratified sampling design. A sample of junior high schools in Taipei city, Taipei county and Yi-Lan county, stratified by the level of urbanization was selected. These three areas located in the northern part of Taiwan have different level of urbanization and different economic structure: Taipei city is the largest metropolitan city in Taiwan; Yi-Lan is a mostly agriculture-based county; and Taipei county is in-between these two regions. Thus, in the first stage, according to the level of urbanization, we divided Taipei city into three strata, Taipei county into three strata, and Yi-Lan county into two strata. In the second stage, based on the number of students registered in each stratum, we chose 40 schools from the pool: 16 schools from Taipei city, 15 schools from Taipei county, and 9 schools from Yi-Lan county. In each school, we randomly chose two classes in each grade and interviewed all students in the class. One parent of students, usually

the mother (about 70%), and the head master of the class were also asked to fill out the parent questionnaire and the teacher questionnaire.

In this study, we analyzed the sample based on the surveys of 7th graders of the junior high and their parents in 2000, and their follow-up surveys, wave 3 in 2002 and wave 6 in 2005. In wave 1, 2696 7th graders received the questionnaires. About 99.79 percent (n = 2690) of adolescents completed the student questionnaire in the class and 98.89 percent of parents filled out the parent questionnaire at home. In the wave 3, about 93.64 percent of the original sample completed the questionnaires and 71.13 percent of parents received interviewed at home. When adolescents became 12th graders in 2005, 1823 adolescents (64.10%) and 1799 parents (63.3%) were re-interviewed.

In order to compare the effects of marital disruption and parental conflict on adolescents, this study limited the sample to adolescents living with two biological parents without parental conflict, living with parents who reported continuing conflict with their spouses, and adolescents with divorced or separated parents over these years. Other residential arrangements, such as adopted families, widowed-mother families, or widowered-father families, are excluded. Because of missing sample in the surveys and because of listwise deletions of missing data on statistical procedures, our final sample includes 1537 adolescents.

The present analyses are based on data from 1537 adolescents and their parents who were retained in the sample trough wave 6. This sample included 766 male adolescents (49.8%) and 771 female adolescents (50.2%). About 82.4 percent of adolescents (n = 1266) lived in non-conflict families; 9.9 percent of adolescents (n = 152) experienced parental conflict; and 7.7 percent of adolescents (n = 119) stayed with divorced or separated single parents.

Measure

Depression. The measure of distress used in this study is based on the Symptoms Checklist (Derogatis, 1983). We asked adolescents to indicate whether they experienced the following physical conditions or depressive symptoms, such as headache, dizziness, feeling physically weak, soreness in muscles, often getting into a fight, trouble falling asleep, feeling depressed, feeling lonely, or thinking about suicide during the past week. The scale consisted of 16 items, with 5-point response ranging from 1 (Never) to 5 (Yes, extremely seriously). The sum of 16 items is the scale score, and the range is from 16 to 80. The higher the scores, the greater the levels of distress. Coefficient alpha for this measure is above .85 at each wave.

Family Network. The scale of family network was measured by 4 items about family cohesion. Adolescents indicated whether they agree or disagree with the following statements about family life: "when making decision, family members would discuss it together; family members like to join in activities together; when I need help or advice, I can count on my family members; and when I am frustrated, family members would comfort me." The values of response were from 1 (strongly agree) to 5 (strongly agree). In order to present the higher scores equal to the greater family relations, the values of items were reversed. The scale is the sum of these 4 items. The scores of the scale range from 4 to 20. The standardized alphas are .72 (wave 1), .79 (wave 3) and .86 (wave 6).

Friend Network. The scale of friend network was measured by 3 items about friend relations. Adolescents indicated whether their friends care about them; they can obtain help from their friends; and when they are frustrated, their friends would comfort them. The values of response were from 1 (strongly agree) to 4 (strongly agree). In order to present the higher scores equal to the greater friend relations, the values of items were reversed. The scale is the sum of these 3 items. The higher

the scores, the greater the peer relations. The standardized alphas are .80 (wave 1), .79 (wave 3) and .94 (wave 6).

Marital Disruption. Based on adolescents reports their parents' marital status, if parents were divorced or separated over these years, adolescents were regarded as children of divorce.

P*arental Conflict.* According to parents' self-reported questionnaires, if two biological married parents often quarreled with or fought against each other through wave 6, their children experienced parental conflict. If adolescents lived with two biological married parents and their parents did not report any interparental conflict for this measure, they were regarded as children of without parental conflict.

This study included one control variable: adolescent gender. Because previous research suggested that *gender* difference was strongly associated with the levels of depression (Avison and Mclalpine, 1992), this analysis included it as a control variable.

(Figure 1 about here)

Data Analysis

We conducted a series of latent growth curve modeling procedures to estimate individual developments of change in support networks and depression using Analysis of Moment Structures (AMOS) program (Arbuckle, 2003). Latent growth modeling treats the intercept and slope of construct s as latent variables. The mean and variance of the intercept factor represent the average and variability in initial levels of support networks and depression. The factor loadings of the intercept for three observed variables are fixed to 1. The mean and variance of the slope factor represent the average rate of change in support networks and depression, and the individual variability about the change. Because this measure is to estimate three

nonequidistant time points (7th, 9th, and 12th grades), the factor loadings of the slope are fixed to 0, 2, 5.

(Figure 2 about here)

In the first step, we used the univariate growth curve modeling procedures to examine the initial levels (intercept) and the rates of change (slope) in support networks and depression, and the relationships between the intercept and the slope (Figure 1). In the second step, in order to test the associations between the initial level and the change in support networks and the initial level and the change in depression, we operated bivariate growth curve modeling procedures (Figure 2). In addition, in order to examine whether there are differences by adolescents with parental conflict, adolescents of divorce, and adolescents without parental conflict in support networks and depression, we compared hypothesized models (by constraining the same effects on three groups to be equal) with the unconstrained full model. If the chi-square did not change significantly after we imposed these constraints, the effects were invariant on these groups.

(Table 1 about here)

Results

Table 1 presented the means and the standard deviations for all variables. Compared to adolescents without parental conflict and with divorced parents, adolescents with parental conflict reported higher values on depression. Disregarding the groups, all adolescents had greater depression in 9th grade (wave 3). Looking at family network, adolescents with parental conflict and with parental divorce had lower levels on the measure than those without parental conflict. When adolescents became older (9th or 12th graders), they reported lower family cohesion.

Finally, adolescents with parental divorce reported better friend relations in 9th and 12th grades. Contrary to family network, older adolescents tended to reported higher scores on friend relations.

(Table 2 about here)

Univariate Latent Growth Curve Models

The unstandardized coefficients of latent growth models for depression, family network, and friend network are presented in Table 2.

Depression. The latent growth curve models of depression for adolescents without parental conflict, with parental conflict, and with parental divorce showed the chi-squares at the significant levels. The fit indices for three models were .85, .84, and .94. The models showed a fair fit with data.

The means and variances of the intercepts for three groups were significant. Adolescents with parental conflict have the higher initial level of depression than other groups, and there are significant differences in the initial level of depression. The means of the slope for adolescents without parental conflict and with parental conflict ($p = 0.55$) were positive and significant, and the variance were significant. These results indicated that there were significant increases in depression and significant differences in change for both groups. Moreover, the associations between the intercepts and the slopes for both groups were significant and negative.

(Table 2a about here)

In order to examine whether there are significant differences among three groups, we conducted fit tests to compare the unconstrained model with all effects constrained

models. The results were showed in Table 2a. Model 2 was to test the null hypothesis: All effects for three groups are equal. Compared to model 1, because the chi-square change was not significant ($\triangle \chi^2 = 17.40$, $\triangle df = 16$, $p = .36$), this null hypothesis was not rejected. In other words, there is no significant difference among three groups.

Family Network. The means and variances of intercepts for three groups were significant. Adolescents without parental conflict showed the higher initial level of family network, and adolescents of divorce had the lower initial level. The means of the slopes for three groups were significant and negative. These results indicated that there were significant declines in family network across these years. The intercept and the slope for adolescents without parental conflict were significantly and negatively correlated.

Looking at Table 2a for fit measures, compared to model 1, because the chi-square change was significant ($\triangle \chi^2 = 57.97$, $\triangle df = 16$, $p = .00$), this null hypothesis was rejected. In other words, there are significant differences among three groups.

Friend Network. According to the estimation, the models of friend networks were best fit to the data. There were non-significant chi-squares and fit indices for these models exceeded .96. The models for friend network had significant means for the intercepts and the slopes. The results indicated that there were significant increases in friend networks over these years. Finally, the associations between the intercept and the slope for adolescents without parental conflict were significant and negative. Thus, higher levels of initial friend network were associated with lower rate of increase in friend networks.

The results of fit measures showed that there is no significant difference among

three groups ($\Delta \chi^2 = 15.02$, $\Delta df = 16$, $p = .52$) (Table 2a).

(Table 3 about here)

Bivariate Latent Growth Curve Models

In order to examine the relationships between the change in support networks and the change in depression, we estimated the bivariate latent growth curve models for support networks and depression simultaneously, including the control variable for gender. The unstandardized coefficients of models were presented in Table 3.

Family Network and Depression. The fit indices of three models were about .90. The path coefficient (a) between the intercept and the slope for family network was significant and negative for adolescent without conflict. The path coefficients(c) between the intercept and the slope for distress were significant and negative for adolescent without conflict and with parental conflict. However, there is no significance between the intercept of network and the slope of depression, or the intercept of depression and the slope of network (b, d). Considering the associations between two intercepts (e), for all groups, the initial level of network was negatively related to the initial level of depression. Only for adolescents without parental conflict, the slope of network and the slope of depression (f) were significant and negative. These findings suggested that for adolescents without parental conflict, increasing in family network is associated with declining in depression.

(Table 3a about here)

Regarding the fit measures (Table 3a), compared to model 1, because the chi-square change was significant ($\Delta \chi^2 = 82.99$, $\Delta df = 52$, $p = .00$), this null

hypothesis was rejected. In other words, there are significant differences among three groups.

Friend Network and Depression. According to the estimation, these models were adequate fit with data, with fit indices more than .91. The path coefficient (a) between the intercept and the slope for family network was significant and negative for adolescent without parental conflict. The path coefficients(c) between the intercept and the slope for distress were significant and negative for all adolescents. Only for adolescents without parental conflict, the intercept of network and the intercept of depression (e) were significant and negative. Finally, looking at the fit measures (Table 3a), because the null hypothesis was not rejected ($\Delta \chi^2 = 50.55$, $\Delta df = 52$, $p = .53$), there is no significant difference among three groups.

Discussion

Adolescence is a time of stress and change when they are particularly dependent on support networks and vulnerable to social influence. The objectives of this study were to examine the associations between support networks and depression from early to late adolescence. Specifically, we investigated change in support networks and change in depression, and the correspondence between two factors. Previous research led us to hypothesize that adolescents experience parental conflict and parents' marital disruption might be different from adolescents without parental conflict. In univariate latent growth curve models, we found that the rates of change in depression and friend network were significant and positive, and the rates of change in family network were negative. In order words, there were significant increases in depression and in friend network, and declines in family network. Moreover, the initial levels of depression and the rates of change were negatively correlated for adolescents without parental conflict and with parental conflict. In

bivariate latent growth curve models, we found that for adolescents without conflict, the interindividual differences in change in family network were significantly associated with interindividual differences in change in depression. Increasing in family network over time is associated with declining in depression. According to fit measures, only in the univariate model of family network, and in the bivariate model of family network and depression, three groups had significant differences.

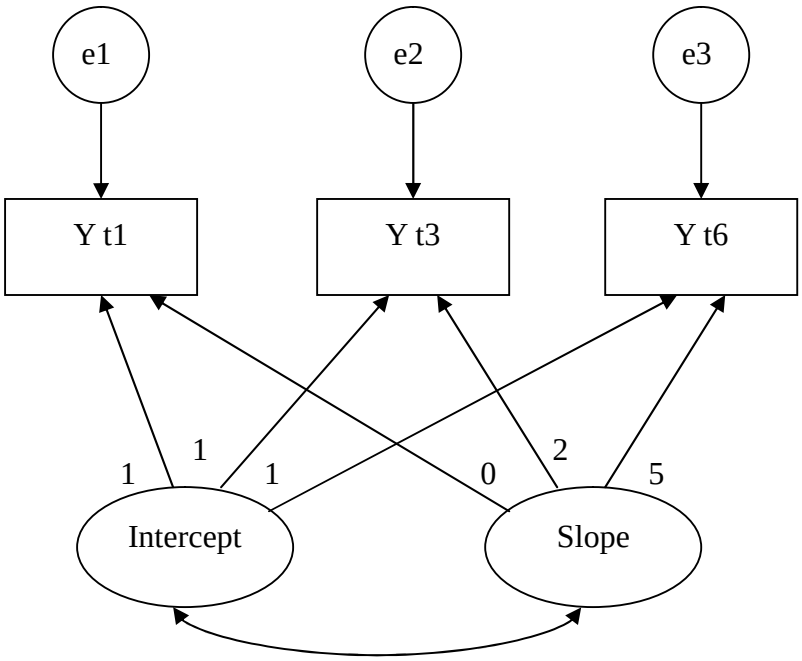

Figure1. Univariate Latent Growth Curve Model

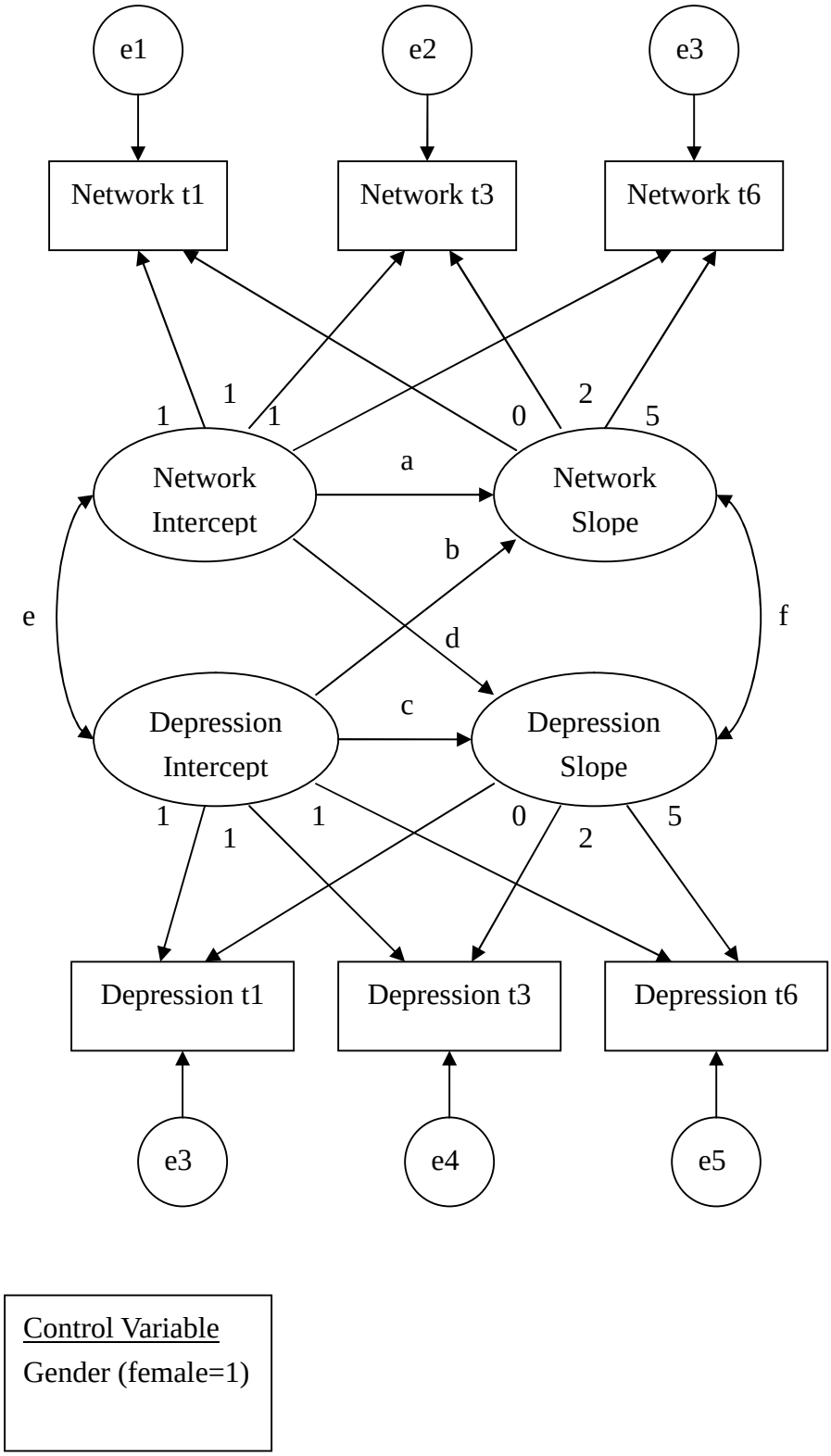

Figure 2: Bivariate Latent Growth Curve Model for Support Network and Distress

Table 1: Descriptive Statistics

	Non-Conflict	Conflict	Divorce
Variable	M (SD)	M (SD)	M (SD)
Depression			
7th (wave 1)	22.31 (6.20)	23.43 (6.20)	23.18 (6.54)
9th (wave 3)	24.44 (6.87)	25.95 (7.33)	24.77 (6.44)
12th (wave 6)	23.59 (6.54)	24.88 (6.89)	24.71 (6.60)
Family Network			
7th	12.18 (2.64)	11.72 (2.88)	11.05 (3.04)
9th	11.33 (2.47)	10.59 (2.50)	10.31 (2.84)
12th	11.34 (2.50)	10.66 (2.44)	10.30 (3.09)
Friend Network			
7th	9.76 (1.62)	9.79 (1.64)	9.56 (1.65)
9th	9.98 (1.60)	9.98 (1.47)	10.09 (1.75)
12th	10.34 (1.56)	10.19 (1.64)	10.29 (1.70)
N	1266	152	119

Table 2. Estimates for Univariate Latent Growth Curve Models of Support Networks and Depression.

	Depression			Family Network			Friend Network		
	Non-Conflict	Conflict	Divorce	Non-Conflict	Conflict	Divorce	Non-Conflict	Conflict	Divorce
Intercept									
Means	22.68***	23.70***	23.55***	11.94***	11.34***	10.82***	9.75***	9.81***	9.63***
Variances	25.11***	30.45***	21.26***	3.72***	3.63***	4.02***	1.10***	0.43	1.50***
Slope									
Means	0.22***	0.23+	0.27	-0.14***	-0.17***	-0.13*	0.12***	0.08*	0.15***
Variances	1.19***	1.96***	1.10	0.11***	-0.01	-0.01	0.05***	0.02	0.04
Covariances	-2.40***	-3.21**	-1.94	-0.24***	-0.11	0.15	-0.10***	.05	-0.12
χ^2	97.24***	17.80***	3.39*	74.19***	14.57***	3.86*	0.05	0.06	2.67
CFI	0.85	0.84	0.94	0.91	0.85	0.97	1.00	1.00	0.96
N	1266	152	119	1266	152	119	1266	152	119

* p< .05, ** p< .01, ***p < .001, + p = 0.55

Table 2a. Fit Measures

	Depression				Family Network				Friend Network			
	χ^2	*df*	*p*	CFI	χ^2	*df*	*p*	CFI	χ^2	*df*	*p*	CFI
M1: Unconstrained Full Model	118.42	3	.00	.86	92.63	3	.00	.91	2.79	3	.43	1.00
M2: All Effects Constrained	135.82	19	.00	.86	150.60	19	.00	.87	17.82	19	.54	1.00

Comparisons

Null Hypothesis Tests	$\Delta\chi^2$	Δdf	*p*	$\Delta\chi^2$	Δdf	*p*	$\Delta\chi^2$	Δdf	*p*
M2-M1: $H_{0:}$ all effects for three groups are equal	17.40	*16*	.36	57.97	16	.00	15.02	16	.52

Table 3. Estimates for Bivariate Latent Growth Curve Models of Support Networks and Depression.

	Family Network			Friend Network		
	Non-Conflict	Conflict	Divorce	Non-Conflict	Conflict	Divorce
a: I_network→ S_network	-0.06***	-0.02	0.04	-0.10***	0.22	-0.08
b: I_distress → S_network	0.01	0.02	0.03	0.00	0.01	-0.01
c: I_distress → S_distress	-0.11***	-0.12***	-0.10	-0.11***	-0.13***	-0.11*
d: I_network → S_distress	-0.04	-0.04	-0.03	-0.09	-0.93	0.14
e: I_network ←→ I_distress	-3.42***	-3.60**	-4.58**	-1.01***	-0.47	0.36
f: S_network ←→ S_distress	-0.08***	-0.03	-0.10	0.02	0.07	0.01
Female → I_network	-0.20	-0.16	-0.11	0.87***	0.82***	1.02***
Female → S_network	0.05	0.09	0.19	0.08**	-0.14	0.09
Female → I_distress	1.18***	2.71**	2.35*	1.18***	2.70**	2.35*
Female → S_distress	0.32***	0.40	0.42	0.41***	1.28	0.30
χ^2	200.12***	37.08***	22.99**	120.49***	20.46*	13.21
CFI	0.88	0.87	0.92	0.91	0.94	0.96
N	1266	152	119	1266	152	119

* p< .05, ** p< .01, ***p < .001

Table 3a: Fit Measures

	Family Network				Friend Network			
	χ^2	*df*	*p*	CFI	χ^2	*df*	*p*	CFI
M1: Unconstrained Full Model	260.29	27	.00	.88	154.20	27	.00	.92
M2: All Effects Constrained	343.28	79	.00	.87	204.75	79	.00	.92
Comparisons								
Null Hypothesis Tests	$\Delta\chi^2$	Δ *df*	*p*		$\Delta\chi^2$	Δ *df*	*p*	
M2-M1: $H_{0:}$ all effects for three groups are equal	82.99	*52*	.00		50.55	52	.53	

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