Extended Abstract

Experiencing Stressful Life Events During Adolescence: Does Gender Matter?

The period of adolescence is a transitional developmental stage, characterized by significant physiological, social, and psychological changes (Cobb, 2010; Gluckman, Beedle, & Hanson, 2009; Santrock, 2010). While many individuals traverse the adolescent transition relatively unscathed, a number experience stressful life events (SLE) that can contribute to significant physical and psychological health problems across the life course (Centers for Disease Control and Prevention, 2012a; Knopf, Park, & Mulye, 2008; Mulye et al., 2009).

Stressful life events are events that occur at a discrete point in time, and usually represent significant life changes. Holmes and Rahe were the first to develop a scale of life events to measure social readjustment of natural, social demands in a person's life (Holmes & Rahe, 1967). Events such as the death of a spouse or the loss of a job would cause high adjustment, while minor events such as a speeding ticket would cause little adjustment. SLE are also assessed according to one's stage in the life course (Cohen, Kessler, & Gordon, 1995). The current study examined stress during the period of adolescence.

Individuals are exposed to stressors in large part though the social and economic contexts of their lives (Pearlin et al., 1981). Individuals who experience more stressful events and chronic burdens include: members of racial/ethnic minority groups, unmarried or widowed adults, females, and adolescents and young adults among others (Geronimus et al., 2006; Kessler et al., 2005; Mirowsky & Ross, 2003b). Those who experience more stressors are also consequently at a higher risk for adverse health outcomes (Pearlin, 1989, 1999; Pearlin et al., 1981; Pearlin et al., 2005; Seplaki et al., 2004).

Previous studies using longitudinal data show that the number of SLE experienced during adolescence differs by age, race/ethnicity, and socioeconomic status (Ge, 1994; Ge et al., 2006). Additional findings suggest that adolescent girls are either exposed to SLE more so than boys (Burke & Weir, 1978; Compas & Wagner, 1991; Dornbusch et al., 1991; Larson & Ham, 1993; Siddique & Darcy, 1984; Wagner & Compas, 1990), or that girls are more distressed when these events occur (Compas & Wagner, 1991; Dornbusch et al., 1991; Siddique & Darcy, 1984; Simmons et al., 1987). However, no studies to date have examined sociodemographic disparities in SLE when considering *how* the stressful event was experienced.

Using Wave I of the National Longitudinal Study of Adolescent Health (Add Health) (N = 9,311), this study examined sociodemographic disparities in adolescent SLE done *to* and performed *by* adolescents, separately for females and males. Consistent with prior research (Adkins, 2009; Boardman & Alexander, 2011; Ge et al., 1994; Ge et al., 2006; Ge et al., 2009), we operationalized SLE as the cumulative number of events occurring during adolescence at Wave I. The measure of SLE was based on those life events experienced prior and reported at Wave I of Add Health by Adkins and colleagues (Adkins, 2009), originally derived from an SLE index developed by Ge et al. (Ge, 1994).

Additionally, the current study took into account individual control over whether an event occurred. Thus, distinct SLE indices were created according to events that occurred *to* or were performed *by* the adolescent (Table 1). Due to the number of events (range from 0-16), and a wider distribution of SLE done *to* adolescents, a four category variable was created: 0 SLE, 1 SLE, 2 SLE, and 3 or more SLE. For the index of SLE performed *by* the adolescent (range from 0-7), a three category variable was created: 0 SLE, 1 SLE, and 2 or more SLE.

Results showed that there were significant associations for all of the sociodemographic characteristics and the number of SLE done *to* adolescent girls (Table 2). Among adolescent females of all ages, 45.9% reported experiencing 0 SLE, 33.4% experienced 1 SLE, 12.0% experienced 2 SLE, and 8.7% experienced 3 or more SLE. There was a significant association between race/ethnicity and number of SLE done *to* adolescent girls. U.S.-born adolescent girls reported a greater number of SLE done *to* them than foreign-born. Girls whose parent had lower education also reported a greater number of SLE, as did girls in families with lower incomes. Girls living in other situations reported substantially higher percentages of experiencing 3 or more SLE (21.6%) than girls living in two biological parent households (4.8%).

Table 3 presents weighted descriptive sample statistics and adjusted Wald tests of adolescent SLE performed *by* females by Wave I sociodemographic characteristics. Among females of all ages, 82.9% reported performing 0 SLE, 13.6% performed 1 SLE, and 3.5% performed 2 or more SLE. There were significant associations between race/ethnicity, parental education, family income, and family structure and the number of SLE performed by females. In this case, nativity status was not significant.

Results also showed significant associations for all the sociodemographic characteristics and the number of SLE done *to* adolescent boys (Table 4). Among adolescent males of all ages, 37.6% reported experiencing 0 SLE, 30.5% experienced 1 SLE, 15.8% experienced 2 SLE, and 16.1% experienced 3 or more SLE. There was a significant association between race/ethnicity and number of SLE done *to* adolescent boys. U.S.-born adolescent males reported a greater number of SLE done *to* them than foreign born. Males whose parent had lower education also reported experiencing a greater number of SLE, as did boys in families with lower incomes.

Table 5 reports weighted distributions and adjusted Wald tests of SLE performed *by* males by Wave I sociodemographic characteristics. Among adolescent males of all ages, 70.6% reported performing 0 SLE, 23.2 performed 1 SLE, and 6.2% performed 2 or more SLE. There were significant associations for all the sociodemographic characteristics and the number of SLE performed *by* adolescent males. Overall, the majority of adolescent boys, regardless of sociodemographic characteristics, reported performing 0 SLE (ranging from 59.3% to 79.1%).

Table 6 presents multivariate ordered logistic regression results of sociodemographic characteristics on adolescent SLE done *to* and performed *by* females. Age at Wave I was positively and significantly associated with experiencing greater numbers of SLE done *to* females. Compared to U.S.-born, foreign born were significantly less likely to have SLE done *to* them. Those with an income of $45,000 to $74,999 were more likely to have a greater number of SLE done *to* them than females with the highest income. Females living in non-two-biological parent homes were significantly associated with experiencing greater numbers of SLE done *to* them.

The results for SLE performed *by* adolescent females showed slightly different results. Compared to White females, Hispanics were significantly more likely to perform higher numbers of SLE during adolescence. Compared to U.S.-born, foreign born were significantly less likely to perform SLE. Family income was also significant, with those in the lowest income categories compared to the highest category being more likely to perform greater numbers of SLE. Additionally, females living in non-two-biological parent homes were significantly more likely to perform greater numbers of SLE.

Among males (Table 7), age at Wave I was positively and significantly associated with experiencing greater numbers of SLE done *to* males. Hispanic males compared to White males

remained significant more likely to experience greater numbers of SLE done *to* them. Compared

to U.S.-born, foreign born were significantly less likely to have SLE done *to* them. Males living

in non-two-biological parent homes were significantly associated with experiencing greater

numbers of SLE done *to* them. For SLE performed *by* males, similar results were found,

excluding age effects.

Tables

Table 1. List of Stressful Life Events According to Event Control, Add Health Wave I (Adkins, 2009; Boardman & Alexander, 2011)

SLE Done *to* the Adolescent	SLE Performed *by* the Adolescent
Death of mother	Suicide attempt resulting in injury
Death of father	Threatened someone with knife/gun
Friend committed suicide	Shot/stabbed someone
Relative committed suicide	Hurt someone in a physical fight
Saw violence	Had sex for money
Threatened by a knife or gun	Ran away from home
Was shot	Raped Someone
Was stabbed	
Was jumped	
Was injured in a physical fight	
Suffered a serious injury	
Romantic Relationship Ended	
Non-romantic Sexual Relationship Ended	
Was raped	
Contracted an STD	
Was expelled from school	

Females:

Table 2. Weighted Percent and Standard Errors of Adolescent SLE by Sociodemographic
Characteristics, Females, Add Health Wave I (N=4,813)

Wave I Sociodemographics	**SLE Done *To* % (SE)**			
	0 SLE	1 SLE	2 SLE	3+ SLE
Individual Characteristics				
Age (12-19 Years)	45.9 (.009)	33.4 (.007)	12.0 (.007)	8.7 (.007)
Race/Ethnicity***				
NH White	46.1 (.014)	34.7 (.011)	12.2 (.009)	7.0 (.007)
NH Black	42.5 (.025)	30.3 (.018)	13.9 (.012)	13.3 (.019)
Hispanic	45.6 (.029)	30.4 (.024)	11.4 (.016)	12.6 (.017)
NH Asian	58.2 (.032)	30.8 (.049)	3.9 (.020)	7.1 (.024)
Nativity Status*				
U.S.-born	45.3 (.012)	33.4 (.009)	12.5 (.007)	8.8 (.008)
Foreign born	57.8 (.053)	33.1 (.047)	3.2 (.017)	6.0 (.019)
Parental Education Level**				
Less than High School	40.2 (.034)	32.3 (.026)	12.9 (.021)	15.6 (.017)
High School Grad	40.0 (.024)	34.4 (.023)	13.9 (.019)	11.8 (.020)
More than High School	47.7 (.013)	33.4 (.010)	11.6 (.007)	7.3 (.007)
Family Income***				
<$20,000	41.1 (.023)	32.5 (.021)	11.9 (.013)	14.4 (.015)
$20,000-44,999	46.5 (.015)	32.3 (.013)	12.4 (.011)	8.9 (.010)
$45,000-74,999	46.1 (.018)	35.6 (.016)	12.4 (.013)	5.9 (.008)
≥$75,000	51.1 (.027)	33.0 (.024)	10.4 (.014)	5.6 (.013)
Family Structure***				
2 Biological Parents	51.9 (.014)	33.1 (.011)	10.2 (.008)	4.8 (.006)
Step-Family	37.6 (.024)	37.0 (.030)	15.3 (.022)	10.1 (.018)
1 Biological Parent	37.9 (.020)	33.4 (.019)	14.1 (.014)	14.6 (.015)
Other Situations	32.8 (.010)	29.2 (.038)	16.4 (.030)	21.6 (.041)

Note: Design-based Wald test for bivariate analysis; NH= non-Hispanic.
* p≤0.05, **p≤0.01, ***p≤0.001.

Table 3. Weighted Percent and Standard Errors of Adolescent SLE by Sociodemographic Characteristics, Females, Add Health Wave I (N=4,813)

| Wave I Sociodemographics | SLE Performed *By* % (SE) | | |
	0 SLE	1 SLE	2+ SLE
Individual Characteristics			
Age (12-19 Years)	82.9 (.009)	13.6 (.007)	3.5 (.003)
Race/Ethnicity*			
NH White	84.3 (.010)	12.9 (.009)	2.8 (.004)
NH Black	78.7 (.020)	16.8 (.018)	4.5 (.009)
Hispanic	79.2 (.025)	15.0 (.021)	5.8 (.013)
NH Asian	85.1 (.031)	11.9 (.028)	3.0 (.012)
Nativity Status			
U.S.-born	82.6 (.009)	13.9 (.007)	3.5 (.004)
Foreign born	86.9 (.024)	10.1 (.026)	3.0 (.012)
Family Background			
Parental Education Level**			
Less than High School	78.1 (.023)	15.5 (.019)	6.4 (.014)
High School Grad	79.7 (.026)	15.9 (.022)	4.4 (.012)
More than High School	84.1 (.009)	13.1 (.009)	2.8 (.003)
Family Income***			
<$20,000	77.4 (.019)	17.3 (.017)	5.3 (.010)
$20,000-44,999	81.9 (.045)	14.1 (.013)	4.0 (.005)
$45,000-74,999	85.4 (.014)	12.6 (.012)	2.0 (.005)
≥$75,000	88.3 (.017)	9.7 (.016)	2.0 (.009)
Family Structure***			
2 Biological Parents	86.8 (.009)	11.5 (.009)	1.7 (.003)
Step-Family	80.6 (.024)	14.9 (.023)	4.4 (.011)
1 Biological Parent	76.9 (.016)	17.0 (.013)	6.0 (.008)
Other Situations	71.0 (.038)	20.1 (.035)	9.0 (.023)

Note: Design-based Wald test for bivariate analysis; NH= non-Hispanic.
* p≤0.05, **p≤0.01, ***p≤0.001.

Males

Table 4. Weighted Percent and Standard Errors of Adolescent SLE by Sociodemographic Characteristics, Males, Add Health Wave I (N=4,498)

Wave I Sociodemographics	SLE Done *To* % (SE)			
	0 SLE	1 SLE	2 SLE	3+ SLE
Individual Characteristics				
Age (12 to 19 Years)	37.6 (.013)	30.5 (.010)	15.8 (.008)	16.1 (.009)
Race/Ethnicity***				
NH White	38.9 (.015)	31.6 (.011)	15.6 (.010)	13.9 (.009)
NH Black	31.3 (.028)	26.2 (.021)	19.5 (.019)	23.0 (.021)
Hispanic	30.3 (.028)	31.6 (.024)	15.4 (.017)	22.7 (.026)
NH Asian	58.8 (.028)	22.9 (.041)	8.8 (.026)	9.5 (.026)
Nativity Status**				
U.S.-born	36.8 (.013)	30.5 (.010)	16.3 (.008)	16.4 (.010)
Foreign born	52.0 (.064)	29.4 (.046)	7.8 (.022)	10.9 (.028)
Family Background				
Parental Education Level***				
Less than High School	29.0 (.027)	30.5 (.023)	18.8 (.022)	21.8 (.023)
High School Grad	32.0 (.036)	30.8 (.031)	13.9 (.019)	23.3 (.033)
More than High School	39.7 (.014)	30.4 (.010)	15.6 (.009)	14.3 (.009)
Family Income***				
<$20,000	30.3 (.022)	30.2 (.021)	17.5 (.017)	22.0 (.021)
$20,000-44,999	36.6 (.019)	29.6 (.016)	15.5 (.012)	18.4 (.014)
$45,000-74,999	41.5 (.019)	32.8 (.016)	13.6 (.013)	12.1 (.011)
≥$75,000	42.9 (.028)	28.1 (.024)	19.7 (.019)	9.4 (.016)
Family Structure***				
2 Biological Parents	43.8 (.016)	30.3 (.012)	14.4 (.009)	11.6 (.008)
Step-Family	32.4 (.029)	33.1 (.033)	16.8 (.024)	17.7 (.023)
1 Biological Parent	28.4 (.018)	29.4 (.019)	18.7 (.015)	23.6 (.020)
Other Situations	22.6 (.043)	32.9 (.049)	15.4 (.036)	29.2 (.043)

Note: Design-based Wald test for bivariate analysis; NH= non-Hispanic.
* p≤0.05, **p≤0.01, ***p≤0.001.

Table 5. Weighted Percent and Standard Errors of Adolescent SLE by Sociodemographic Characteristics, Males, Add Health Wave I (N=4,498)

Wave I Sociodemographics	SLE Performed *By* % (SE)		
	0 SLE	1 SLE	2+ SLE
Individual Characteristics			
Age (12-19 Years)	70.6 (.011)	23.2 (.009)	6.2 (.062)
Race/Ethnicity***			
NH White	72.4 (.013)	22.9 (.012)	4.7 (.006)
NH Black	61.7 (.022)	25.7 (.021)	12.6 (.017)
Hispanic	68.9 (.021)	23.0 (.019)	8.1 (.016)
NH Asian	77.0 (.036)	20.9 (.031)	2.1 (.010)
Nativity Status**			
U.S.-born	70.2 (.012)	23.5 (.010)	6.4 (.006)
Foreign born	79.1 (.027)	18.6 (.025)	2.3 (.010)
Family Background			
Parental Education Level***			
Less than High School	67.1 (.025)	23.7 (.022)	9.2 (.017)
High School Grad	59.6 (.039)	30.4 (.037)	10.1 (.020)
More than High School	72.7 (.011)	22.2 (.009)	5.2 (.005)
Family Income***			
<$20,000	62.3 (.027)	26.3 (.024)	11.4 (.014)
$20,000-44,999	67.8 (.017)	25.5 (.016)	6.7 (.009)
$45,000-74,999	77.3 (.015)	19.3 (.014)	3.4 (.007)
≥$75,000	76.6 (.025)	20.5 (.023)	2.9 (.009)
Family Structure***			
2 Biological Parents	75.8 (.011)	20.9 (.010)	3.3 (.005)
Step-Family	69.1 (.030)	26.6 (.030)	4.3 (.013)
1 Biological Parent	61.5 (.019)	26.6 (.015)	11.9 (.013)
Other Situations	59.3 (.047)	26.1 (.043)	14.6 (.033)

Note: Design-based Wald test for bivariate analysis; NH= non-Hispanic.
* p≤0.05, **p≤0.01, ***p≤0.001.

Ordered Logistic Regression

Table 6. Multivariate Ordered Logistic Regression of Adolescent SLE by Sociodemographic Characteristics, **Females**, Add Health Wave I (N=4,813)

Wave I Sociodemographic Characteristics (reference)	SLE Done *to*		SLE Performed *by*	
	AOR	95% CI	AOR	95% CI
Individual Characteristics				
Age (Years)	1.26***	1.20, 1.32	1.06	0.99, 1.14
Race/Ethnicity (NH White)				
NH Black	1.00	0.78, 1.29	1.09	0.84, 1.42
Hispanic	1.18	0.89, 1.57	1.49*	1.01, 2.19
NH Asian	0.88	0.53, 1.47	1.26	0.75, 2.12
Nativity Status (U.S.-born)				
Foreign born	0.46**	0.28, 0.76	0.52*	0.32, 0.86
Family Background				
Parental Education Level (More than High School)				
Less than High School	1.16	0.84, 1.60	1.00	0.68, 1.48
High School Grad/GED	1.09	0.85, 1.39	0.95	0.68, 1.32
Family Income (≥$75,000)				
<$20,000	1.20	0.89, 1.63	1.58*	1.02, 2.42
$20,000-44,999	1.10	0.88, 1.39	1.42*	1.01, 2.01
$45,000-74,999	1.24*	1.00, 1.53	1.27	0.86, 1.87
Family Structure (2 Biological Parents)				
Step-Family	1.71***	1.36, 2.13	1.60**	1.12, 2.28
1 Biological Parent	1.82***	1.49, 2.23	1.80***	1.39, 2.31
Other Situations	2.32***	1.63, 3.30	2.35***	1.59, 3.50

Note: Analysis weighted; NH= non-Hispanic; AOR = Adjusted odds ratios; CI = Confidence intervals.
* p≤0.05, **p≤0.01, ***p≤0.001.

Table 7. Multivariate Ordered Logistic Regression of Adolescent SLE by Sociodemographic Characteristics, **Males**, Add Health Wave I (N=4,498)

Wave I Sociodemographics (reference)	SLE Done *to*		SLE Performed *by*	
	AOR	95% CI	AOR	95% CI
Individual Characteristics				
Age (Years)	1.23***	1.17, 1.29	1.05	1.00, 1.11
Race/Ethnicity (NH White)				
NH Black	1.15	0.91, 1.46	1.27*	1.02, 1.58
Hispanic	1.53**	1.15, 2.04	1.17	0.86, 1.60
NH Asian	0.68	0.45, 1.03	1.03	0.67, 1.59
Nativity Status (U.S.-born)				
Foreign born	0.39***	0.25, 0.63	0.53***	0.36, 0.77
Family Background				
Parental Education Level (More than High School)				
Less than High School	1.15	0.84, 1.57	1.02	0.75, 1.37
High School Grad/GED	1.02	0.74, 1.41	1.31	0.94, 1.83
Family Income (≥$75,000)				
<$20,000	1.26	0.96, 1.65	1.50*	1.06, 2.11
$20,000-44,999	1.17	0.93, 1.46	1.35	0.98, 1.85
$45,000-74,999	1.02	0.83, 1.24	0.96	0.73, 1.25
Family Structure (2 Biological Parents)				
Step-Family	1.47***	1.16, 1.86	1.21	0.93, 1.58
1 Biological Parent	1.76***	1.45, 2.13	1.63***	1.36, 1.96
Other Situations	1.82**	1.24, 2.69	1.78**	1.15, 2.75

Note: Analysis weighted; NH= non-Hispanic; AOR = Adjusted odds ratios; CI = Confidence Intervals.
* p≤0.05, **p≤0.01, ***p≤0.001.