

## THE LIFE EVENTS OF ADOLESCENTS: IMPLICATIONS FOR RURAL SCHOOL NURSES

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### ABSTRACT

The purpose of this study was to describe life events of rural adolescents and their relationship to depression. The design was a cross sectional survey. The sample included 193 students attending three rural high schools in southwestern Pennsylvania. Measures included The Life Events Checklist and The Reynolds Adolescent Depression Scale (RADS-2). Results showed that the mean number of life events was eighteen. Females reported more life events and more negative life events than males. There was a moderate, linear correlation between negative life events and depression ( $r = .361$ ;  $p < 0.0001$ ). Rural school nurses should include adolescents' recent life events in the health history. Awareness of negative life events as a precipitating factor in depression constitutes appropriate screening and referral by rural school nurses.

### INTRODUCTION

Why is it important to examine the various life events of rural adolescents and their relationship to depression, and what are the implications for rural school nurses? Life events are occasions experienced by people throughout their lives (Danish, Smyer, & Nowalk, 1980). They can be positive (achieving a good grade); negative (death of a parent); desirable or undesirable (moving to a new home) (Bernardo & Sereika, 1998). Rural is defined as low population density at less than 2,500 people (U.S. Census Bureau, 2011). It is important to examine the life events of adolescents in the rural areas of a county, state, or country because of the lack of access to specialized health services, such as mental health care. In addition, high poverty levels in rural areas contribute to the increased number of uninsured, who are less likely to access health care for themselves or their children.

Depression is a prevalent disorder among American youth. A section of Chapter 3 of the U.S. Surgeon General's Report on Mental Health titled *Depression and Suicide in Children and Adolescents* reveals that "between 10-15% of the child and adolescent population has *some* symptoms of depression (Smucker et al., 1986). The prevalence of a diagnosis of major depression among all children ages 9-17 has been estimated at 5% (Shaffer et al., 1996c)." (United States Department of Health and Human Services, 2008, p. 4). Indicators of a serious depressive episode in adolescents are prolonged depressed mood, poor school performance, worsening relationships with family and friends, and

substance abuse. Symptoms may include decreased interest in activity, change in appetite, difficulty concentrating, fatigue and episodes of memory loss (U.S. National Library of Medicine, 2009).

Recent evidence indicates that among children and adolescents, “stressful life events often precede a suicide and/or a suicide attempt (de Wilde et al., 1992; Gould et al., 1996). These stressful life events include trouble at school or with a law enforcement agency; the end of a relationship with a boyfriend or a girlfriend; or a fight among friends. They are rarely a sufficient cause of suicide, but they can be precipitating factors in young people” (United States Department of Health and Human Services, 2008, p.9).

Puskar et al. (1999) screened 846 rural adolescents for depression. Significant depressive symptoms were reported by 12.8% of the youth. Self reported depressive symptoms were related to being female, a death in the family, and perceived negative life events. The perceived negative life events included losing a close friend, an increase in the number of arguments with parents, trouble with classmates, and trouble with the police.

Kostelecky (2005) conducted a study of 133 male and female high school students, age 16-19 years, from two rural Midwestern communities in the United States. The aim of the study was to investigate the relationships between academic achievement, parental attachment, life events and substance use. A notable finding was that an increase in the number of life events experienced by adolescent was significantly related to the use of alcohol.

Peden et al. (2005) sampled 299 rural adolescents ages 14-18 years from 5 rural high schools in Kentucky and Iowa to determine the commonness of depressive symptoms and related social and environmental variables. Results showed that the percentage of students with a high level of depressive symptoms ( $CES-D \geq 16$ ) in the sample was 34% and 9% had considered suicide in the past year. Males reported as many depressive symptoms as females. Predictors of depressive symptoms included poor family relationships and poor active coping. Risky behavior linked with depressive symptoms in this sample was operating a 4-wheel all-terrain vehicle.

Ge, Natsuaki, and Conger (2006), sampled 550 rural adolescents, (mean age = 14 years) and followed them longitudinally for 11 years. The results showed that adolescents who experienced parental divorce by the age of 15 years showed significantly higher levels of depressive symptoms than adolescents from non divorced families. In addition, stressful life events that occurred shortly after divorce significantly increased the vulnerability to depressive symptoms among the adolescent of divorced parents.

Bouma et al. (2008), collected data as part of a longitudinal cohort study of (pre)adolescents ( $n=2127$ ). The results implied that (pre)adolescents whose parents had a lifetime depressive episode were more responsive to the effects of stressful life events than adolescents without depressed parents. Females were more responsive to the effects of stressful life events than males.

Leung (2007) conducted a telephone survey with 717 children and adolescents ages 8-18 years to determine the interrelationships between motives for internet use, stressful life events, social support and the internet use. The findings showed that the use of the internet for information seeking and entertainment (mood management) and recognition gaining and relationship maintenance (social compensation motives) was significantly associated with stressful life events.

In summary, the literature shows that adolescents' self reported depressive symptoms are related to being female, a death in the family, and perceived negative life events (Puskar et al., 1999). Predictors of depressive symptoms include poor family relationships and poor active coping (Peden et al., 2005). The literature also shows that adolescents who experience parental divorce by the age of 15 show significantly higher levels of depressive symptoms than adolescents from non divorced families (Ge, Natsuaki, & Conger, 2006). (Pre) adolescents whose parents have a lifetime depressive episode are more responsive to the effects of stressful life events than adolescents without depressed parents (Bouma et al., 2008). In addition, an increase in number of life events experienced by adolescents is significantly related to the use of alcohol (Kostecky, 2005). Internet use is significantly associated with stressful life events (Leung, 2007). Further exploration of the positive and negative life events experienced by rural youth and their relationship to depression may elucidate the importance of school nurses including life events in the health history.

### ***Purpose of the Study***

The purpose of this paper is to describe life events and explore the relationship between life events and depression in rural adolescents.

### ***Research Questions***

- 1) What are the life events described by rural adolescents?
- 2) Is there a relationship between life events and depression?

## **METHODS**

### ***Sample***

As previously presented by Puskar et al. (2006), the sample included 193 students in the ninth, tenth, and eleventh grade from three southwestern Pennsylvania rural public high schools. Inclusion criteria were the ability to read and write English, and enrollment in main stream classes.

Subjects were mostly white (86.5%, n=167) and ranged in age from 14-17 years (mean=15.57). Females (53.4%, n=103) were higher in number than males (46.6%, n=90). The students were in ninth (57%, n=110), tenth (26.4%, n=51), and eleventh grade (16.6%, n=32). The majority were involved in academic programs (88.6%, n=171). The rest of the students were involved in other programs including vocational, business, and remedial. Over one fourth of the students (28.5%, n=55), worked an average of 14.1 hours per week.

The highest levels of the father's education, were high school (39.4%) and a bachelor's degree (9.8%). The highest levels of the mother's education were high school (35.2%) and a bachelor's degree (17.1%).

The student's fathers' jobs varied. The most frequently reported job was a mechanic (6.7%, n=13). Other jobs reported were electrician/plumber, mill worker (3.6%, each n=7); construction (3.1%, n=6), dairy, executive, truck driver (2.6%, each n=5); and manager, maintenance, welder, steel worker (2.1%, each n=4). The student's mothers

were nurses (10.9%, n=21); secretaries (5.2%, n=14); teachers (5.2%, n=10); in sales (3.6%, n=7); and waitresses (3.1%, n=6) (Table 1).

Table 1. Adolescent Characteristics

Characteristic	Adolescent (n= 193)
<b>Gender</b>	
Male	90(46.6%)
Female	103(53.4%)
<b>Race</b>	
Caucasian	167(86.5%)
Other	26(13.5%)
<b>Grade</b>	
9th	110(57%)
10th	51(26.4%)
11th	32(16.6%)
<b>Program of studies</b>	
Academic	171(88.6%)
Others (Vocational, Business and Remedial)	22(11.4%)
<b>Employment status</b>	
Employed	55 (28.5%)
Unemployed	138(71.5%)

### **Design**

The research design was a cross sectional survey of 193 adolescents in three rural high schools in southwestern Pennsylvania.

### **Measures**

*The Life Events Checklist (LEC)* (Johnson & McCutcheon, 1980; Brand & Johnson, 1982) is a self-report scale that measures life events in older children and adolescents ages 13-18 years. It consists of 46 items plus four spaces for indicating significant events experienced but not listed on the scale. The child notes the event as good or bad, and rates the perceived impact of the event on a scale from 0 (no effect) to 3 (great effect) (Goodman, Gravitt, & Kaslow, 1995). The LEC lists two values: a positive life change score and a negative life change score. The positive score is calculated by summing the impact ratings (0 to 3) of the events rated as positive and the negative score by summing the impact ratings (0 to 3) of the events rated as negative. A total life change score can also be calculated by summing the impact ratings of all of the events experienced. Test-retest reliability is .66 to .72. (Compas, 1987)

*The Reynolds Adolescent Depression Scale – 2<sup>nd</sup> edition (RADS-2)* (Reynolds, 2002) is a brief, self-report measure of depressive symptoms which consists of 30 items on a 4-point Likert scale. The total score on the RADS-2 can range from 30-120. A cutoff score of 77 on the RADS-2 was established to identify adolescents who demonstrate clinical levels of depressive symptomatology (Reynolds, 2002). Question # 14 “I feel like hurting myself” measures the risk for self injury and if answered positively, requires timely evaluation for suicidal ideation. The RADS-2 has been tested on more than 9,000 adolescents. The internal consistency reliability coefficient is 0.93 (strong). Over three months, the retest reliability is 0.79 (Reynolds, 2002).

### **Procedures**

Approval to conduct the study was obtained from the school administrators and The University of Pittsburgh Institutional Review Board. The research staff met with freshman, sophomores, and juniors in the auditorium of three high schools, which were located in rural counties of the state. During this meeting, the purpose of the study, the consent process, and student payment was explained. Signed parental consent and student consent was obtained from those who chose to participate. The measures, including two instruments that recorded life events and depression, were administered to a group during school and took approximately two hours to complete. The students were paid \$10.00 for completing the measures.

### ***Analysis***

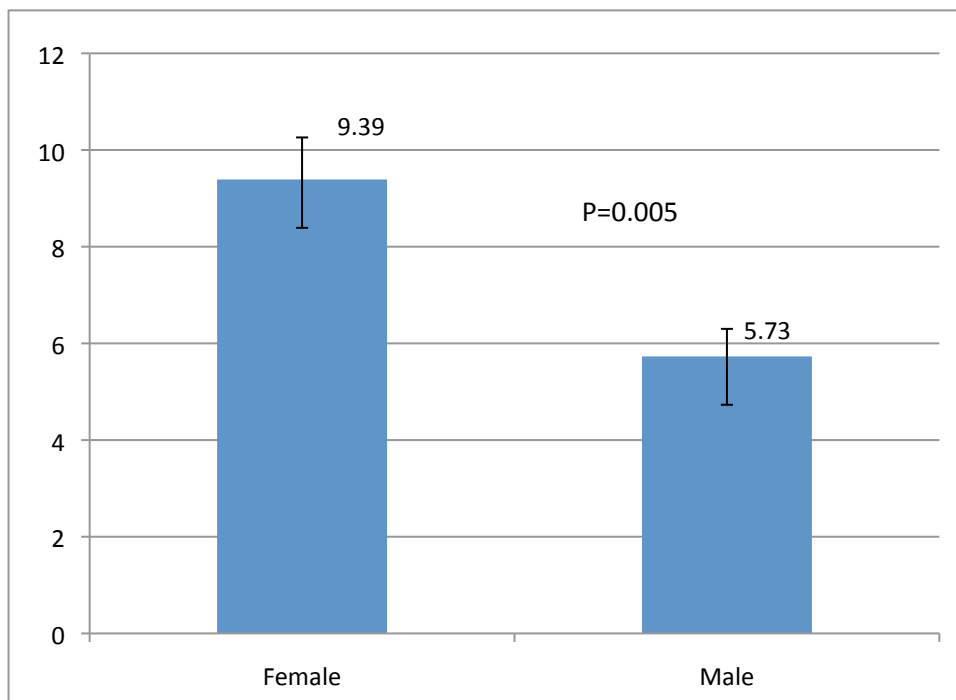
Descriptive statistics of frequencies, means, and standard deviations were calculated using SAS (SAS Institute. Cary, NC). Correlation statistics were also used. The level of significance was set at  $p < 0.05$ .

## **RESULTS**

The mean number of life events was ( $M=17.99$ ;  $SD=11.84$ ; range = 0-77). The three most common positive life events were “making the honor role” ( $n=117$ ), “special recognition for good grades” ( $n=108$ ), and “making an athletic team” ( $n=94$ ). The three most common negative life events were “death of a family member” ( $n=75$ ), “serious illness or injury of a family member” ( $n=71$ ) and “increased number of arguments between parents” ( $n=58$ ).

Females reported more life events ( $M=19.806$ ;  $SD=12.99$ ; range= 0-77) than males ( $M=15.875$ ;  $SD=9.99$ ; range= 0-56) ( $t=2.05$ ;  $p=0.025$ ). Females also reported more negative life events ( $M=9.39$ ;  $SD=8.84$ ) than males ( $M=5.73$ ;  $SD=5.45$ ) ( $t=2.82$ ;  $p=0.005$ ) (Table 2).

Table 2. Number of Reported Negative Life Events of Adolescents



The most frequent negative life events for females were “serious illness or injury of a family member” (n=48), “death of a family member” (n=43) and “increased number of arguments between parents” (n=40). Males reported that “death of a family member” (n=32), “serious illness or injury of a family member” (n=23), and “increased number of arguments between parents” (n=18) as negative life events (Table 3).

Table 3. Negative Life Events

	%	n
<i>Female Adolescents</i>		
Serious illness or injury of a family member	46.60	48
Death of a family member	41.75	43
Increased number of arguments between parents	38.83	40
Trouble with teacher	35.92	37
Trouble with brother or sister	29.13	30
<i>Male Adolescents</i>		
Death of a family member	35.56	32
Serious illness or injury of a family member	25.56	23
Increased number of arguments between parents	20.00	18
Breaking up with a girlfriend	20.00	18
Making failing grades on a report card	20.00	18

As previously reported by Puskar et al. (2006), 10% (n=19) of the students, reported depressive symptoms and 90% (n=174), were within normal range. Members of the research team interviewed the students that reported depressive symptoms (n=19), self harm ideation (n=4), or who requested to see a counselor (n=8). A total of 30 students were interviewed (one who requested to see a counselor was interviewed previously). The Pearson correlation coefficient was calculated between negative life

events and depression. There was a moderate, positive correlation between negative life events and depression ( $r = .361$ ;  $p < 0.0001$ ).

## **DISCUSSION**

Our study findings indicate that 10% ( $n=19$ ) of the students reported depressive symptoms and 90% ( $n=174$ ) were within normal range. Of the 10% requiring follow up evaluation, several were female ( $n=15$ ). Findings from this study support the previous work of Puskar et al. (1999) who noted that self reported depressive symptoms were related to female gender and Ge et al. (2006) who revealed that females have a greater number of depressive symptoms in adolescence than males. In addition, Bouma et al. (2008) documented that females were more responsive to the effects of stressful life events than males. Unlike these reports, Peden et al. (2005) revealed that male adolescents reported as many depressive symptoms as female adolescents

In our study, there was a moderate, linear correlation between negative life events and depression ( $r = .361$ ;  $p < 0.0001$ ). Interestingly, in this study the negative life events for the total sample were related to family. In 1999, Puskar et al. documented that self reported depressive symptoms were related to death in the family, and perceived negative life events. Peden et al. (2005) noted that predictors of depressive symptoms in rural adolescents included poor family relationships and Ge et al. (2006) revealed that children who went through parental divorce by the age of 15 had more depressive symptoms than children from non divorced families.

The findings from our study will alert rural school nurses to the negative life events experienced by adolescents and their relationship to depression. In the high schools, if students self-report or are reported by others to school personnel as being depressed, school nurses need to consider that life events may be a contributing to the distress. During the health history, the school nurse should ask questions about past, current, or future (anticipated) stressful life events.

## **IMPLICATIONS FOR RURAL SCHOOL NURSES**

The Federal grant support for this study enhances the implications of the findings for nurses and other types of mental health professionals. Recently, The U.S. Preventive Services Task Force Recommendations included screening for adolescent depression as a standard recommendation (Agency for Healthcare Research and Quality, 2009, p.3). Nurses and other mental health professionals working in rural primary care settings and school nurses in rural communities should become aware of the importance of including life events in the health history of an adolescent, particularly the female adolescent. The nurse may use a behavioral checklist as part of the health history and assessment process. The President's New Freedom Commission on Mental Health Section 4 titled *Goal 4: Early Mental Health Screening, Assessment, and Referral to Services Are Common Practice* (2007) states that "schools are in a key position to identify mental health problems early and provide a link to appropriate services" (p. 2).

School nurses in a rural setting need to be aware that stressful life events may have an impact on the mental health of adolescents and "often precede a suicide and/or a suicide attempt" (United States Department of Health and Human Services, 2008, p.9). If a student reports or is reported by others as being depressed, as part of the health history, the school nurse should ask about past, current, or future (anticipated) life events. Since the data showed that females report more negative life events, a thorough health history,

and life events history is warranted. When assessing life events in adolescents, it is most important to note not only the life event, but the adolescent's *perception* of the event. For example, "moving to a new home" may be perceived as either desirable or undesirable and should be noted as such (Bernardo & Sereika, 1998). Consideration should be given to the development of a reliable screening, diagnostic, and monitoring questionnaire. This questionnaire should include a set of measurable "vital signs" that are suitable for screening and early identification of problems and illnesses (Institute of Medicine Report, 2007). When rural school nurses are cognizant of the life events experienced or being experienced by the adolescent, they should screen for depression and refer the adolescent to the appropriate mental health agency.

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