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Factors that affect Early Sexual Initiation in a Sample of College Students in North-East Tennessee: The Role of Adverse Childhood Experiences, Economic Hardship, Family Structure and Religiosity

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Introduction

The United States has the highest Pregnancy rates of 57 per 1000 females in 15 to 19 years old¹

In 2015, compared to the national rates, Tennessee had the 9th highest teen birth rate (TN-30.5, U.S.-22.3 births per 1,000 young women ages 15-19)²

This study seeks to explore the effect of key structural, social and economic factors on early sexual initiation



Methods

Study Population

385 students who received course credit through the university's Introduction to Psychology course for their participation in this study

Included 352 students aged 18 to 24 years.

The majority of respondents were aged 18 – 21 (>90%) and are females (68%)

72.73% identified as Non-Hispanic whites (17.61% Non-Hispanic Blacks, 9.66% identified as other races or ethnicities).



Data
Collection

Collected in REDCap

Hosted on the ETSU SONA
system

Fall 2017 semester

Approved by the ETSU IRB



Measures

- We used questions from published surveys to construct our Study questionnaire.
- Outcome Variable: Age at sexual Initiation
- We limited sexual initiation to penetrative vaginal intercourse
- Derived from the CDC 2017 State and Local Youth Risk Behavior Survey.
- ❖ To females – The very first time you had sexual intercourse with a man, how old were you?
- ❖ To males – The very first time you had sexual intercourse with a woman, how old were you?



Predictors

Adverse Childhood Experiences (ACEs)

Exposure to ACEs was accessed using a 10-item questionnaire based on work from Vincent J Felitti to include abuse, neglect and household dysfunction.

ACEs Score was created based on previous literature as No ACEs (0), low ACEs (1 – 3) and high ACEs (≥ 4).

Economic Hardship

We used a 10-item Economic Hardship (EH) Questionnaire by Lempers to assesses the extent to which respondents had to make cutbacks to their lifestyle while growing up

Endorsed on a four-point scale, ranging from 1 = Never to 4 = Very Often.



Predictors

Religious Attendance

Religious attendance at 14 was assessed based on previous questions used by the National Survey of Family Growth (NSFG)

Categorized as frequent ($\geq 1 - 3$ times a month) and non-frequent (\leq once a month) based on previous literature.

Intactness of Family Unit

Assessed as 'Yes' or 'No' based on the NSFG question – Between your birth or adoption and your 18th birthday, did you always live with both your biological or adoptive parents?



Statistical Analysis

Descriptive analysis

Chi square tests were done to determine the association between Age at first sex and predictor variables.

Logistic regression analysis was used to estimate measure of association between high risk sexual behaviors and the socio-economic determinants.

All analyses were done on SAS 9.4.

RESULTS

DEMOGRAPHICS

Characteristic	N	%
Gender		
Male	112	31.82
Female	239	67.9
Intersex	1	0.28
Race		
NH Black	62	17.61
NH White	256	72.73
Others	34	9.66
Marital / Cohabiting Status		
Married/living with partner	28	7.95
Never married	314	89.2
Divorced/separated/Don't know	10	2.84
Religion Attendance at 14		
No / infrequent	81	23.01
Frequent	271	76.99
Intactness of Family Unit		
Yes	208	59.09
No	144	40.91
ACE score		
0	138	39.2
1 – 3	140	39.77
≥ 4 (up to 10)	74	21.02
Mean ± SD		
EHQ score		
10 – 15	118	33.52
15 – 20	123	34.94
> 20	111	31.53
Mean ± SD		
Age at sexual Initiation		
≤ 14	25	7.1
15 - 17	149	42.33
≥ 18	178	50.57
Mean Age of Sexual Initiation	16.55	
Males	16.53	
Females	16.56	

► Table 2: Number and Percentage of Predictor factors by Age at sexual Initiation

	Age at sexual initiation (n = 352)		p- value
	< 15 years n (%)	≥ 15 years n (%)	
N = 352	25(7.10)	327(92.9)	
Gender			0.65
Male	9 (36)	103 (31.6)	
Female	16 (64)	223 (68.4)	
Race			0.94
NH Black	5 (20)	57 (17.43)	
NH White	18 (72)	238 (72.78)	
Others	2 (8)	32 (9.79)	
Marital / Cohabiting Status			0.74
Married/living with partner	2 (8)	26 (7.95)	
Never married	22 (88)	292 (89.3)	
Divorced/separated/Don't know	1 (4)	9 (2.75)	
ACE score			<0.01*
0	3 (12)	135 (41.28)	
1 – 3	12 (48)	128 (39.14)	
≥ 4 (up to 10)	10 (40)	64 (19.57)	
EH score			0.92
10 – 15	9 (36)	109 (33.33)	
15 – 20	9 (36)	114 (34.86)	
> 20 (up to 40)	7 (28)	104 (31.8)	
Religion Attendance at 14			0.03*
No / infrequent	10 (40)	71 (20.17)	
Frequent	15 (60)	256 (78.29)	
Intactness of Family Unit			<0.01*
No	19 (76)	125 (38.23)	
Yes	6 (24)	202 (61.77)	

Table 3 : Simple Logistic Regression Analysis For Age at Sexual Initiation by Predictors

Predictor	Age at sexual debut	
	OR (CI)	p-value
Age	0.7 (0.5 – 1.1)	0.11
Gender		
Male		Ref
Female	0.8 (0.4 – 1.9)	0.65
Race		
NH Black		Ref
NH White	0.9 (0.3 – 2.4)	0.78
Marital / Cohabiting Status		
Married/living with partner		Re)
Never married	1.0 (0.2 – 4.4)	0.98
Divorced/separated/Don't know	1.4 (0.1 – 17.9)	0.77
ACE score		
0		Ref
1 – 3	4.2 (1.2 – 15.3)	0.03*
≥ 4	7.0 (1.8 – 26.4)	<0.01*
EHQ score		
10 – 15		Ref
15 – 20	0.9 (0.4 – 2.5)	0.93
> 20	0.8 (0.3 – 2.3)	0.7
Religion Attendance at 14		
No / Infrequent		Ref
Frequent	0.4 (0.2 – 0.9)	0.04*
Intactness of Family Unit		
No		Ref
Yes	0.5 (0.3 – 0.8)	<0.01*



Discussion

This study finds that having at least one ACE, Infrequent religious attendance and non-intact family units were associated with early sexual initiation <15 years.

Consistent with prior ACEs research

Not consistent with studies that have shown religiosity not to be associated with late sexual initiation³

No significant association between economic hardship and Age at sexual initiation.



Conclusion

The factors that influence adolescent sexual behaviors are largely determined by the structural and social environment a child grows.

A multi level approach is thus required to ensure healthy sexual choices and prevent Teen pregnancy / STDs.



Limitations and Future Direction

A major limitation of this study is a small sample size to detect statistical significance.

Wide confidence intervals

As a result, we could not do multivariable analysis especially by gender.

Data is self reported

Currently working on getting data for the spring 2018 semester to achieve enough sample size and explore other sexual risk behaviors




References

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3 Gold MA, Sheftel A V., Chiappetta L, et al. Associations between Religiosity and Sexual and Contraceptive Behaviors. *J Pediatr Adolesc Gynecol*. 2010;23(5):290-297. doi:10.1016/j.jpag.2010.02.012



Thank you...

