

Florida Actual versus Expected Teen Births and Repeat Teen Births By County 2018 through 2020

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Introduction

In the United States, teen birth rates have declined each year since 2007 [1]. In Florida, a total of 8,918 babies were born to teens aged 15 – 19 years in 2020 for a live birth rate of 15.0 per 1,000 teens in this age group. In 2020, birth rates fell by 5.0% for teens aged 15 – 17 years and decreased by 8.0% for teens aged 18 – 19 years with an overall decrease of 7.2% for all teens (aged 15 – 19 years old) when compared to 2019 rates [2]. Also, from 2018 to 2020, teen birth rates have declined across all racial/ethnic groups. Dropping by 17.5% among Non-Hispanic White, 8.3% among Non-Hispanic Black, and 4.9% among Hispanic teens [3]. While reasons for the decline are not fully understood, according to the Centers for Disease Control and Prevention (CDC), more teens appear to be abstaining from sexual activity, and more teens who are sexually active seem to be using birth control than in past years [4]. Moreover, according to a Pew Research Center analysis, conducted in 2011, another possible factor for the decline is the economy. This study found the decreasing birth rate trend to be associated with the economic downturn of the 2007 recession. However, this decreasing trend has continued as the economy has recovered [5].

While teen birth rates have declined, teen pregnancy prevention continues to be a public health priority. Pregnant teens are at an increased risk of anemia, high blood pressure, giving birth prematurely, having low birthweight babies, and experiencing postpartum depression [6]. Consequently, teens who have a pre-term delivery and a low birthweight baby increase the risk of child developmental delay, illness, and mortality [7,8]. Additionally, teen mothers are less likely than their peers to complete high school and more likely to live below the poverty level and rely on public assistance [9].

The purpose of this annual analysis is to identify geographic areas in Florida where teen birth rates and repeat teen birth rates are statistically significantly higher than would be expected considering the unique demographics of each area. This information may be used to encourage further, more detailed analyses to investigate factors that contribute to the higher than expected rates and to develop intervention strategies for improving outcomes.

Methods

In this analysis, the actual number of teen births and repeat teen births are compared to the expected number for each county. The expected numbers are calculated by applying the state rates to the data for each county. The assumption is the expected rates for the counties are equal to the statewide rates. The difference between the number of actual and expected births is also tested for statistical significance. In the following tables, the word "Higher" appears for the counties where the number of actual births is statistically significantly higher than the expected number of births and the word "Lower" appears for the counties where the number of actual births is statistically significantly higher than the expected number of births and the word "Lower" appears for the counties where the number of actual births is statistically significantly different from the expected number of births. An alpha level of 0.05 is used for this test, which means that for the counties marked as "Higher" or "Lower" there is a 5% chance that the difference between the actual and expected number is due to random variation.

Note that for larger counties, smaller differences between the statewide rate and the county rate may be statistically significant while the same or greater differences may not be statistically significant in smaller counties. This is because statistical significance depends in part on the magnitude of the numbers used in the calculations. Since the larger counties will have larger female teen populations and more teen births, the differences between the statewide rate and county rates are more likely to be statistically significant. In statistical testing, this is called statistical power. All of the data for the following tables are from the Florida Department of Health's (FDOH) FLHealthCHARTS website at: http://www.flhealthcharts.com/charts/default.aspx. The Poisson function in Excel was used for the statistical testing.

Results

In the following tables, actual statistics are compared to expected statistics. Counties with statistically significantly higher than expected statistics are indicated in the tables as "Higher." Counties with statistically significantly lower than expected statistics are indicated in the tables as "Lower." Counties not marked as "Higher" or "Lower" had rates that were not statistically significantly different from the expected rates.

Teen births among females aged 15 – 17 (Table 1)

As shown in Table 1, teen births among females aged 15 – 17 was statistically significantly higher in 30 counties (Baker, Bay, Citrus, Collier, Columbia, Desoto, Dixie, Duval, Escambia, Franklin, Gadsden, Hamilton, Hardee, Hendry, Highlands, Holmes, Lee, Levy, Liberty, Manatee, Marion, Okeechobee, Polk, Putnam, Sumter, Suwannee, Taylor, Volusia, Walton, and Washington) and statistically significantly lower in 12 counties (Broward, Charlotte, Clay, Dade, Flagler, Hernando, Leon, Osceola, Saint Johns, Santa Rosa, Sarasota and Seminole).

Teen births among females aged 15 – 19 (Table 2)

As shown on Table 2, teen births among females aged 15 – 19 was statistically significantly higher in 42 counties (Baker, Bay, Bradford, Calhoun, Citrus, Collier, Columbia, Desoto, Dixie, Duval, Escambia, Franklin, Gadsden, Gilchrist, Gulf, Hamilton, Hardee, Hendry, Highlands, Hillsborough, Holmes, Indian River, Jackson, Lake, Lee, Levy, Liberty, Manatee, Marion, Nassau, Okaloosa, Okeechobee, Polk, Putnam, Sumter, Suwannee, Taylor, Union, Volusia, Wakulla, Walton, and Washington) and statistically significantly lower in 15 counties (Alachua, Brevard, Broward, Clay, Dade, Flagler, Leon, Martin, Monroe, Orange, Palm Beach, Pinellas, Saint Johns, Sarasota and Seminole).

Repeat births to teens aged 15 - 17 (Table 3)

As shown on Table 3, repeat births to teens aged 15 – 17 was statistically significantly higher in four counties (Desoto, Lafayette, Manatee, and Marion) and statistically significantly lower in one county (Brevard).

Repeat births to teens aged 15 - 19 (Table 4)

As shown on Table 4, repeat births to teens aged 15 – 19 was statistically significantly higher in five counties (Desoto, Duval, Hillsborough, Holmes, and Marion) and statistically significantly lower in six counties (Charlotte, Collier, Dade, Flagler, Osceola, and Seminole).

Discussion

One limitation of this analysis is the comparatively high level of variability of rates in smaller counties. Consequently, larger differences in rates for small counties may not be statistically significant while the same or smaller differences may be statistically significant in larger counties. Actual rates that are statistically significantly higher than the expected rates are most likely not a result of random fluctuations and are cause for concern; however, higher rates that are not statistically significant may also warrant further investigation. Additionally, smaller counties with higher than expected rates for a period of several years may also be cause for concern.

This analysis may be used as a basis for establishing priorities and to inform strategies developed to reduce both teen births and repeat teen births in Florida. The rationale is to use the results of this analysis to focus further analysis and efforts on the counties where the rates are significantly high and analyze factors that contribute to the lower rates seen in some counties.

Current FDOH Teen Pregnancy Prevention Initiatives and Activities

Evidence suggests that implementing a variety of outreach and educational programs can help in reducing teen pregnancies. Accordingly, one of the Healthy People 2030 objectives is to reduce pregnancy among adolescent females (FP-03) [10].

- Prevention of initial or repeat teen births is a Family Planning program objective which aligns with the federal Title X Program priorities and key issues.
- Teen birth rate goals are included in FDOH's Long-Range Program Plan (LRPP).
- A county health department (CHD) snapshot measure was developed in 2013 to track the number of teens who adopt an effective or higher method of contraception. Effective or higher contraception use increased from 88.0% in 2019 to 89.5% in 2020 [11].
- CHDs are encouraged to increase reproductive health education by providing educational materials describing contraceptive methods to teens in schools and communities.
- Long-acting reversible contraception (LARC) use among teens aged 15 19 increased from 8.9% in 2019 to 10.3% in 2020 (excluding teens who were pregnant, seeking pregnancy, or abstinent) [11]. LARC methods are highly effective in preventing pregnancy and are a significant tool in reducing unplanned or unwanted pregnancies.
- The State Sexual Risk Avoidance Education Grant allows youth aged 11 19 across multiple counties in the state to receive instruction on healthy relationships and avoiding risky sexual behavior via an evidenced-informed curriculum administered by CHDs and community organizations.
- The Positive Youth Development Initiative (PYD) provides CHDs with resources to enhance the strengths and assets of youth while mitigating risky behaviors through community service activities.

References:

- 1. Centers for Disease Control and Prevention. State Teen Birth Rates by Race and Hispanic Origin: United States, 2017-2018. National Vital Statistics Reports. 2020; 69 (6). https://www.cdc.gov/nchs/data/nvsr/nvsr69/NVSR69-6-508.pdf. Accessed: June 24, 2021.
- 2. FLHealthCHARTS. http://www.flhealthcharts.com/. Accessed: June 24, 2021.
- 3. FLHealthCHARTS. Birth Count Query System. <u>http://www.flhealthcharts.com/FLQUERY_New/Birth/Count</u>. Accessed: July 1, 2021.
- 4. Centers for Disease Control and Prevention. About Teen Pregnancy. https://www.cdc.gov/teenpregnancy/about/index.htm. Accessed: June 24, 2021.
- Livingston, G, Thomas, D. Pew Research Center. Why is the teen birth rate falling? <u>https://www.pewresearch.org/fact-tank/2019/08/02/why-is-the-teen-birth-rate-falling/</u>. Accessed: Accessed: June 24, 2021.
- 6. Mayo Clinic Staff. Teen pregnancy: Helping your teen cope. Mayo Foundation for Medical Education and Research. <u>https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/teen-pregnancy/art-20048124</u>. Accessed: June 24, 2021.
- 7. Chandra, PC, Schiavello, HJ, Ravi, B, Weinstein, AG, Hook, FB. Pregnancy outcomes in urban teenagers. International Journal of Gynecology and Obstetrics. 2002; 79:117-122.
- 8. Chen, XK, Wen, SW, Fleming, N, Demissie, K, Rhoads, GG, Walker, M. Teenage pregnancy and adverse birth outcomes: A large population based retrospective cohort study. International Journal of Epidemiology. 2007; 36:368-373.
- 9. National Campaign to Prevent Teen Pregnancy. Why it Matters: Teen childbearing, education, and economic well-being. July 2012.
- 10. Healthy People 2030. Reduce pregnancies in adolescents FP-03. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. <u>https://health.gov/healthypeople/objectives-and-data/browse-objectives/family-planning/reduce-pregnancies-adolescents-fp-03</u>. Accessed: July 1, 2021

11. Family Planning Annual Report (FPAR) Dashboard. Florida Department of Health. Accessed: June 24, 2021.

	Table 1: Florida Teen Birth Rates for Mothers Ages 15 – 172018 – 2020				
County	2018 – 2020 Number of Females 15 – 17	2018 – 2020 Actual Number of Births to Mothers 15 – 17	2018 – 2020 Expected Number of Births to Mothers 15 – 17	2018 – 2020 Number of Births per 1,000 Females 15 – 17	Statistical Significance*
Statewide	1,079,606	6,589	6,589	6.1	
Alachua	11,064	60	68	5.4	
Baker	1,538	24	9	15.6	Higher
Вау	8,529	105	52	12.3	Higher
Bradford	1,314	12	8	9.1	
Brevard	28,413	158	173	5.6	
Broward	103,010	409	629	4.0	Lower
Calnoun	(87	3	5	3.8	Lower
Citrus	5 038	51	36	4.4	Higher
Clav	13,927	56	85	4.0	Lower
Collier	16,986	127	104	7.5	Higher
Columbia	3,509	30	21	8.5	Higher
Dade	143,402	614	875	4.3	Lower
Desoto	1,588	26	10	16.4	Higher
Dixie	763	13	5	17.0	Higher
Duval	52,700	472	322	9.0	Higher
Escambia	16,972	184	104	10.8	Higher
Flagler	4,810	20	29	4.2	Lower
Franklin	434	11	3	25.3	Higher
Gadsden	2,501	28	15	11.2	Higher
Glichnist	901	8	5	8.9	
Giades	530	5	3	9.3	
Hamilton	627	9	4	14.4	Higher
Hardee	1 750	25	11	14.3	Higher
Hendry	2.288	30	14	13.1	Higher
Hernando	9.530	36	58	3.8	Lower
Highlands	4,450	42	27	9.4	Higher
Hillsborough	83,497	533	510	6.4	Ū.
Holmes	875	13	5	14.9	Higher
Indian River	6,390	50	39	7.8	
Jackson	2,237	19	14	8.5	
Jefferson	576	3	4	5.2	
Lafayette	456	2	3	4.4	
Lake	15,630	107	95	6.8	L Parla e a
Lee	34,439	250	210	7.3	Higher
Leon	21,973	100	134	4.0	Lower
Levy	308	7	8	12.7	Higher
Madison	876	7	5	8.0	riighei
Manatee	18.051	172	110	9.5	Higher
Marion	16,439	174	100	10.6	Higher
Martin	6,989	38	43	5.4	Ū.
Monroe	2,667	10	16	3.7	
Nassau	4,499	23	27	5.1	
Okaloosa	9,450	58	58	6.1	
Okeechobee	2,003	24	12	12.0	Higher
Orange	78,221	449	477	5.7	
Osceola Dolm Booch	23,894	102	146	4.3	Lower
Paim Beach	73,312	441	447	6.U	
Pinellas	40.840	230	249	5.4	
Polk	38 585	329	235	8.5	Higher
Putnam	3 523	42	22	11.9	Higher
Saint Johns	14,370	38		2.6	Lower
Saint Lucie	15,429	107	94	6.9	
Santa Rosa	10,289	41	63	4.0	Lower
Sarasota	16,848	73	103	4.3	Lower
Seminole	26,254	72	160	2.7	Lower
Sumter	2,149	24	13	11.2	Higher
Suwannee	2,246	22	14	9.8	Higher
laylor	989	13	6	13.1	Higher
Union	714	7	4	9.8	
Volusia	24,542	177	150	7.2	Higher
Walton	1,738	9	11	5.2	Higher
Washington	3,185	42	19 8	13.2	Higher
* Higher - county rate is	statistically significantly high	her than the state rate (alp	ha=0.05)	10.0	

Blank - no statistically significant difference between the county rate and the state rate

Table 2: Florida Teen Birth Rates for Mothers Ages 15 – 192018 – 2020					
County	2018 – 2020 Number of Females 15 – 19	2018 – 2020 Actual Number of Births to Mothers 15 – 19	2018 – 2020 Expected Number of Births to Mothers 15 – 19	2018 – 2020 Number of Births per 1,000 Females 15 – 19	Statistical Significance*
Statewide	1.768.618	28,286	28.286	16.0	
Alachua	33,915	312	542	9.2	Lower
Baker	2,620	110	42	42.0	Higher
Вау	13,900	394	222	28.3	Higher
Bradford	2,142	69	34	32.2	Higher
Brevard	44,981	629	719	14.0	Lower
Broward	162,690	1,707	2,602	10.5	Lower
Calhoun	1,173	40	19	34.1	Higher
Charlotte	9,443	145	151	15.4	Highor
Clav	21 146	201	338	13.4	Lower
Collier	26,375	472	422	17.9	Higher
Columbia	5.568	156	89	28.0	Higher
Dade	237,014	2,679	3,791	11.3	Lower
Desoto	2,590	99	41	38.2	Higher
Dixie	1,154	57	18	49.4	Higher
Duval	81,465	1,924	1,303	23.6	Higher
Escambia	29,294	783	469	26.7	Higher
Flagler	8,331	109	133	13.1	Lower
Franklin	666	36	11	54.1	Higher
Gadsden	4,176	137	67	32.8	Higher
Glades	1,479	38	24	25.7	Higher
Gulf	1 018	30	14	29.5	Higher
Hamilton	978	47	16	48.1	Higher
Hardee	2.712	106	43	39.1	Higher
Hendry	3,808	126	61	33.1	Higher
Hernando	14,699	254	235	17.3	J
Highlands	6,792	172	109	25.3	Higher
Hillsborough	133,186	2,284	2,130	17.1	Higher
Holmes	1,473	38	24	25.8	Higher
Indian River	10,074	192	161	19.1	Higher
Jackson	3,890	100	62	25.7	Higher
Jefferson	974	15	16	15.4	
Lafayette	///	12	12	15.4	L Park a s
Lake	26,918	491	431	18.2	Higher
Lee		1,055	668	19.2	Lower
	3.086	70	49	25.6	Higher
Liberty	611	26	10	42.6	Higher
Madison	1.314	28	21	21.3	riigiloi
Manatee	28,055	624	449	22.2	Higher
Marion	26,337	735	421	27.9	Higher
Martin	10,985	146	176	13.3	Lower
Monroe	4,269	53	68	12.4	Lower
Nassau	6,660	126	107	18.9	Higher
Okaloosa	15,166	322	243	21.2	Higher
Okeechobee	3,254	128	52	39.3	Higher
Orange	137,619	1,831	2,201	13.3	Lower
Osceola Balm Baach	38,075	1670	1 992	10.0	Lower
Pasco	43.826	691	701	15.8	LOWEI
Pinellas	65 441	974	1 047	14.9	Lower
Polk	63.802	1.421	1.020	22.3	Higher
Putnam	5,724	194	92	33.9	Higher
Saint Johns	23,446	162	375	6.9	Lower
Saint Lucie	24,395	413	390	16.9	
Santa Rosa	15,451	245	247	15.9	
Sarasota	26,715	349	427	13.1	Lower
Seminole	41,708	403	667	9.7	Lower
Sumter	3,350	117	54	34.9	Higher
Suwannee	3,660	109	59	29.8	Higher
	1,541	59	25	38.3	Higher
Volusia	1,099	29	18	26.4	Higher
Wakulla	42,018		012	17.0	Higher
Walton	2,733 <u>4</u> 991	145	80	22.7	Higher
Washington	1 918	69 69		36.0	Higher
* Higher - county rate is	s statistically significantly high	her than the state rate (alp	oha=0.05)		

Lower - county rate is statistically significantly lower than the state rate (alpha= 0.05) Blank - no statistically significant difference between the county rate and the state rate

Table 3: Florida Repeat Birth Rates for Mothers Ages 15 – 17 2018 – 2020					
County	2018 – 2020 Number of Births to Females 15 – 17	2018 – 2020 Actual Number of Repeat Births to to Mothers 15 – 17	2018 – 2020 Expected Number of Repeat Births to to Mothers 15 – 17	2018 – 2020 Actual Percent Repeat Births to to Mothers 15 – 17	Statistical Significance*
Statewide	6 589	420	420	6.4%	
Nachua	60	420	420	6.7%	
Baker	24	1	2	4.2%	
Bay Bradford	105	8	7	7.6%	
Brevard	158	4	10	2.5%	Lower
Broward	409	26	26	6.4%	
Calhoun	3	0	0	0.0%	
Charlotte	27	0	2	0.0%	
Citrus	51	2	3	3.9%	
Collier	127	4	8	3.1%	
Columbia	30	3	2	10.0%	
Dade	614	35	39	5.7%	
Desoto	26	6	2	23.1%	Higher
Dixie	13	0	1	0.0%	
Escambia	4/2	31	30	6.0%	
Flagler	20		12	0.0%	
Franklin	11	0	1	0.0%	
Gadsden	28	1	2	3.6%	
Gilchrist	8	0	1	0.0%	
Glades	5	1	0	20.0%	
Gulf Jansiltan	6	2	0	33.3%	
Hamilton	9	2	2	0.0%	
lendry	30	1	2	3.3%	
Hernando	36	2	2	5.6%	
Highlands	42	1	3	2.4%	
Hillsborough	533	42	34	7.9%	
Holmes	13	2	1	15.4%	
ndian River	50	1	3	2.0%	
lefferson	3	0	0	0.0%	
_afayette	2	2	0	100.0%	Higher
_ake	107	8	7	7.5%	
_ee	250	15	16	6.0%	
eon	100	9	6	9.0%	
_evy	17	1	1	5.9%	
Madison	7	0	0	0.0%	
Manatee	172	18	11	10.5%	Higher
Marion	174	20	11	11.5%	Higher
Martin	38	1	2	2.6%	
Monroe	10	1	1	10.0%	
Nassau	23	2	1	8.7%	
Okaloosa Okeechohee	24	2	2	8.3%	
Drange	449	28	29	6.2%	
Dsceola	102	3	7	2.9%	
Palm Beach	441	30	28	6.8%	
Pasco	147	8	9	5.4%	
Pinellas	239	11	15	4.6%	
-UIK Putnam	329	23	21	7.0%	
Saint Johns		2	2	5.3%	
Saint Lucie	107		7	8.4%	
Santa Rosa	41	2	3	4.9%	
Sarasota	73	5	5	6.8%	
Seminole	72	2	5	2.8%	
Suwannee	24	3	2	12.5%	
Favlor	13	1	1	4.5%	
Jnion	7	0	0	0.0%	
/olusia	177	6	11	3.4%	
Vakulla	9	0	1	0.0%	
Valton	42	5	3	11.9%	
	17	4	1	E 00/	

Table 4: Florida Repeat Birth Rates for Mothers Ages 15 – 192018 – 2020					
County	2018 – 2020 Number of Births to Females 15 – 19	2018 – 2020 Actual Number of Repeat Births to to Mothers 15 – 19	2018 – 2020 Expected Number of Repeat Births to to Mothers 15 – 19	2018 – 2020 Actual Percent Repeat Births to to Mothers 15 – 19	Statistical Significance*
Statewide	20.206	4.011	4 011	14.00/	
Alachua	312	34	4,011	14.2%	
Baker	110	12	16	10.9%	
Bay	394	65	56	16.5%	
Bradiord	629	11	10	15.9%	
Broward	1,707	251	242	14.7%	
Calhoun	40	6	6	15.0%	
Charlotte	145	10	21	6.9%	Lower
Citrus	201	30	29	14.9%	
Collier	284 472	35 53	40	12.3%	Lower
Columbia	156	22	22	14.1%	Lower
Dade	2,679	335	380	12.5%	Lower
Desoto	99	24	14	24.2%	Higher
Dixie	57	5	8	8.8%	Highor
Escambia	783	113	111	10.4%	nigilei
Flagler	109	8	15	7.3%	Lower
Franklin	36	5	5	13.9%	
Gadsden	137	23	19	16.8%	
Glades	38	6	5	15.8%	
Gulf	30	5	4	16.7%	
Hamilton	47	9	7	19.1%	
Hardee	106	13	15	12.3%	
Hendry	126	22	18	17.5%	
Hernando	254	32	36	12.6%	
Hillsborough	2.284	359	324	15.7%	Higher
Holmes	38	13	5	34.2%	Higher
Indian River	192	25	27	13.0%	-
Jackson	100	17	14	17.0%	
Jefferson	15	2	2	13.3%	
Lake	491	75	70	15.3%	
Lee	1,053	146	149	13.9%	
Leon	421	61	60	14.5%	
Levy	79	14	11	17.7%	
Liberty	26	5	4	19.2%	
Manatee	624	102	88	14.3%	
Marion	735	127	104	17.3%	Higher
Martin	146	23	21	15.8%	
Monroe	53	9	8	17.0%	
Nassau Okaloosa	126	15	18	11.9%	
Okeechobee	128	21	18	16.4%	
Orange	1,831	250	260	13.7%	
Osceola	592	65	84	11.0%	Lower
Palm Beach	1,679	225	238	13.4%	
Pasco Pinellas	691	88	98	12.7%	
Polk	1.421	214	202	15.1%	
Putnam	194	30	28	15.5%	
Saint Johns	162	16	23	9.9%	
Saint Lucie	413	62	59	15.0%	
Santa Rosa Sarasota	245	31	35	12.7%	
Seminole	403	41	49 57	10.7%	Lower
Sumter	117	21	17	17.9%	20001
Suwannee	109	22	15	20.2%	
Taylor	59	6	8	10.2%	
Union	29	2	4	6.9%	
Wakulla	/41 62	91 Q	105	12.3%	
Walton	145	23	21	15.9%	
Washington	69	11	10	15.9%	
* Higher - county perce	ntage is statistically significar	ntly higher than the state r	ate (alpha=0.05)		
Lower - county perce	ntage is statistically significar	ntiy lower than the state ra	nte (alpha= 0.05) state rate		
_and no statistically					