

**NCAA Division I Academic Progress Rate
(APR)
Public Use Dataset Codebook**

Division I Academic Progress Rate (APR), 2020

Introduction

The data collected by the research staff at the NCAA on student-athlete academic performance have enormous potential to contribute to scholarly analysis on a range of important issues. The NCAA created a public access database containing team-level Academic Progress Rates (APRs), eligibility rates, retention rates, and award information on Division I student-athletes from 2003-04 through 2018-19 academic year for the purpose of granting the NCAA membership and the general public access to these unique data. Although most of the components of this dataset are publicly available, they have never previously been compiled in a way that provides for efficient analysis of and linking to other educational data.

Background on Academic Reform

Presidential leadership on college campuses across the nation recognized a need to track how student-athletes are doing academically prior to graduation. Beginning in 2003, colleges and universities in NCAA Division I – the largest and highest profile athletics programs – implemented a comprehensive academic reform package designed to improve the academic success and graduation of all student-athletes. The centerpiece of the academic reform package was the development of a real-time academic measurement for sports teams, known as the APR. The APR includes student-athlete eligibility, retention and graduation as factors in a formula that yields a single number, providing a much clearer picture of the current academic culture on each Division I sports team in the country. Over the last ten years, the APR has become an important measure of student-athlete academic success. For high APR scores, the NCAA recognizes member institutions for ensuring that student-athletes succeed in the classroom. If, however, low APR scores are earned consistently, member institutions can be subjected to penalties including scholarship reductions and the loss of eligibility to compete in championships.

Key Terms

Calculation of the APR. A team’s APR cohort for a given year is composed of student-athletes who receive financial aid based on athletic ability; if a team does not offer athletics aid, then the cohort consists of those student-athletes who are listed on the varsity roster on the first day of competition. Each student-athlete in the APR cohort has the ability to earn two points for each regular academic term of full-time enrollment. One point is awarded if the student-athlete is academically eligible to compete in the following regular academic term. The other point is awarded if the student-athlete is retained by the institution (i.e., returns to school as a full-time student) in the next regular academic term. Student-athletes who graduate are given both the eligibility and retention points for the term. Squads can also earn a delayed graduation point if a student-athlete who left the institution without graduating returns to the institution and graduates.

At the start of each academic year, each Division I team's APR is calculated by adding all points earned by student-athletes in the team's cohorts in each of the previous four years, dividing that total by the number of possible points the student-athletes could have earned and multiplying by 1,000. Thus, an APR of 950 means that the student-athletes in the cohort earned 95 percent of the eligibility and retention points that they could have earned.

See Table 1 for an example of a one-semester calculation for a hypothetical team.

Table 1
Example of APR Calculation for a Men’s Football Team (n=85 at start of year)

Semester 1 (Fall)	Points Earned
75 student-athletes <u>eligible</u> and <u>retained</u> to next term (or graduate in that term)	75*(2 of 2) = 150 of 150
3 student-athletes are <u>retained</u> to next term but are academically <u>ineligible</u>	3*(1 of 2) = 3 of 6
5 student-athletes <u>leave the university</u> while academically <u>eligible</u>	5*(1 of 2) = 5 of 10
2 student-athletes <u>leave the university</u> while academically <u>ineligible</u>	2*(0 of 2) = 0 of 4
Semester Total	158 of 170 (929 APR)

Petr, T.A. & Paskus, T.S. (2009). The collection and use of academic outcomes data by the NCAA. In Jennifer Lee Hoffman, James Soto Antony & Daisy D. Alfaro, (Eds), *Data- Driven Decision-Making In Intercollegiate Athletics*, New Directions In Institutional Research. San Francisco: Jossey-Bass.

In addition to a team’s current year APR, its rolling four-year APR (or multi-year APR) is also used to determine team accountability for the academic progress of their student-athletes. A team’s multiyear APR is calculated by adding all points earned by the student-athletes during the 4 year period, and then dividing that total by the number of possible points the student-athletes could have earned during the same period and multiplying by 1,000. ¹

¹ Note that the APRs in the search data base (<https://web3.ncaa.org/aprsearch/aprsearch>) represented four-year rolling average. The four-year APR is represented by the variable MULTIYR_APR_RATE_1000 in the public access data. Also, due to data corrections, the searchable database may list rates that are slightly different from the rates in the public access data.

Quarter Schools. For statistical reasons, APRs for schools on a quarter system are calculated using a more complicated formula that better translates academic progress at a school on a quarter calendar to one on a semester calendar. Please visit NCAA.org² for more details on the specific calculation for quarter squads.

Squad-Size Adjustment. The squad-size adjustment is a statistical margin of error, or confidence interval, applied by the NCAA when limited data are available to estimate a team's APR with appropriate confidence. The adjustment helps ensure that small squads are not penalized unfairly based on a small set of observations. *Confidence intervals*, commonly used in statistics, roughly represent a range of scores within which the true APR likely resides. The upper confidence boundary of a team's APR has to be below 925 for that team to be subject to APR penalties. The squad-size adjustment currently only applies to squads with three or fewer years of data or four-year cohorts of fewer than 30 student-athletes.

Eligibility and Retention Rates. A squad's eligibility rate is calculated by taking all of the eligibility points earned during the previous four years, dividing that total by the number of eligibility points that could have been earned during that time and multiplying by 1,000. A squad's retention rate is calculated similarly using retention points earned and retention points possible.

0-for-2. Under the APR calculation, a "0-for-2" student-athlete is one who becomes academically ineligible and leaves the institution in a given academic term. These situations are the most damaging to a team's APR because they are considered the worst academic outcomes.

Public Recognition Award. Each year, the NCAA publishes a list of squads whose multiyear APR is among the top 10 percent in their respective sport. This public acknowledgment of top performing squads is designed to recognize the teams and institutions that are performing up to the highest standards of academic achievement consistent with the academic principles of the NCAA.

Additional Information

More information about the Academic Progress Rate and related penalties – including a searchable database of historical rates – is available on the NCAA's website (<http://www.ncaa.org/about/resources/research/division-i-academic-progress-rate-apr>).

² <http://www.ncaa.org/about/resources/research/division-i-academic-progress-rate-apr>

Data File: NCAA Division I Academic Progress Rate

Variable Description

Variable	Description and Coding (Notes in Italics)
SCL_UNITID	UNITID for institution <i>Unique identification number assigned to postsecondary institutions surveyed through the Integrated Postsecondary Education Data System. Labeled IPEDS ID in the following search tool: http://nces.ed.gov/globallocator/</i>
SCL_NAME	Official name of institution
SPORT_CODE	Sport identification (in code) Coding: 1 = Baseball 2 = Men's Basketball 3 = Men's Cross Country 4 = Football 5 = Men's Fencing 6 = Men's Golf 7 = Men's Gymnastics 8 = Men's Ice Hockey 9 = Men's Lacrosse 10 = Men's Skiing 11 = Men's Soccer 12 = Men's Swimming 13 = Men's Tennis 14 = Men's Track 15 = Men's Volleyball 16 = Men's Water Polo 17 = Men's Wrestling 18 = Women's Basketball 19 = Women's Bowling 20 = Women's Cross Country 21 = Women's Rowing 22 = Women's Fencing 23 = Women's Field Hockey 24 = Women's Golf 25 = Women's Gymnastics 26 = Women's Ice Hockey 27 = Women's Lacrosse 28 = Women's Softball 29 = Women's Skiing 30 = Women's Soccer 31 = Women's Sand Volleyball 32 = Women's Swimming 33 = Women's Tennis 34 = Women's Indoor Track 35 = Women's Volleyball 36 = Women's Water Polo 37 = Mixed Rifle <i>*note: starting 2016, indoor track and outdoor track squads are combined in APR calculation; therefore, instead of reporting APR for 4 sport codes (Men's Indoor Track, Men's outdoor Track, Women's Indoor Track, and Women's Outdoor Track), the new data reports APR rate for only 2 sport codes: Men's Track and Women's Track.</i>
SPORT_NAME	Sport identification
ACADEMIC_YEAR	Academic year in which latest data was recorded; in this file, it refers to 2014-15 academic year.
SCL_DIV_19	Institution's primary division of NCAA membership, 2019-20 Coding: 1 = Division I; 2 = Division II; 3 = Division III <i>An institution's division of membership corresponds generally to its enrollment and athletics budget. The average enrollment and athletics budget are highest in Division I and lowest in Division III. Division I and II institutions can offer financial aid based on athletic ability. Though the APR is a Division I measure, Divisions II and III institutions are included if they play a sport at the Division I level.</i>
SCL_SUB_19	Institution's subdivision of NCAA membership, 2019-20

	<p>Coding: 1 = Football Bowl Series (FBS, formerly I-A); 2 = Football Championship Series (FCS, formerly I-AA); 3 = Division I (no football, formerly I-AAA)</p> <p><i>Applies to Division I institutions only; it is missing for institutions in Divisions II and III. FBS institutions (coding = 1) have the largest athletics programs; their football teams are eligible for postseason bowl games. FCS teams (coding = 2) compete for the FCS championship in a year-end tournament. Schools coded as "3" are Division I institutions that do not have football teams.</i></p>
CONFNAME_19	Name of institution's primary conference,
D1_FB_CONF_19	Name of institution's football conference, 2019-20 (applying for Division I FBS and FCS institutions only)
SCL_HBCU	Indicates if the institution is a historically black college or university, 2019-20
SCL_PRIVATE	Indicates whether the institution is private or public, 2019-20 Coding: 1 = Private; 0 = Public
MULTIYR_APR_RATE_1000_RAW	Four-year APR on 1,000-point scale (raw value) <i>Team's raw APR, based on academic years 2015-16 through 2018-19. See "Calculation of the APR" in the Key Terms section for further explanation.</i>
MULTIYR_APR_RATE_1000_CI	Team-size adjusted four-year APR on 1,000-point scale based on its upper confidence interval boundary. <i>When only limited data (multi-year squad size is below 30 or squad has only 3 or fewer years of data available) are available to estimate a team's APR, the NCAA applies the upper confidence interval boundary for team size adjustment. This multi-year APR rate (CI) value is also based on academic years 2015-16 through 2018-19. See "Squad-Size Adjustment" in the Key Terms section for further explanation.</i>
MULTIYR_APR_RATE_1000_OFFICIAL	The final Four-year raw or team-size adjustment APR value (on 1,000-point scale) officially used for penalty, announced in 2019. <i>If the multi-year squad size is below 30 or the team has only 3 or fewer years of data, the team-size adjustment APR value (or confidence interval) is used for the penalty decision; otherwise, the raw value is used. See "Squad-Size Adjustment" in the Key Terms section for further explanation.</i>
RAW_OR_CI	Type of APR rate used for penalty determination (RAW or CI) Coding: raw = raw rate; ci = confidence interval <i>Delineates whether the APR used for penalties in 2017-18 (announced in 2018) was the raw multiyear APR or the adjusted value based on small squad size. See "Squad- Size Adjustment" in the Key Terms section for further explanation.</i>
MULTIYR_ELIG_RATE	Four-year eligibility rate on 1,000-point scale <i>Team's eligibility rate, based on academic years 2014-15 through 2017-18. See "Eligibility and Retention Rates" in the Variable Content section for further explanation.</i>
MULTIYR_RET_RATE	Four-year retention rate on 1,000-point scale <i>Team's retention rate, based on academic years 2015-16 through 2018-19. See "Eligibility and Retention Rates" in the Variable Content section for further explanation.</i>
MULTIYR_SQUAD_SIZE	Four-year squad size

	<i>Total number of student-athletes (N) whose eligibility and retention contributed to the four-year APR, eligibility and retention rates for academic years 2014-15 through 2017-18.</i>
APR_RATE_2019_1000	APR for 2018-19 academic year only
ELIG_RATE_2019	Eligibility rate for 2018-19 academic year only
RET_RATE_2019	Retention rate for 2018-19 academic year only
NUM_OF_ATHLETES_2019	Squad size for 2018-19 academic year only
APR_RATE_2018_1000	APR for 2017-18 academic year only
ELIG_RATE_2018	Eligibility rate for 2017-18 academic year only
RET_RATE_2018	Retention rate for 2017-18 academic year only
NUM_OF_ATHLETES_2018	Squad size for 2017-18 academic year only
APR_RATE_2017_1000	APR for 2016-17 academic year only
ELIG_RATE_2017	Eligibility rate for 2016-17 academic year only
RET_RATE_2017	Retention rate for 2016-17 academic year only
NUM_OF_ATHLETES_2017	Squad size for 2016-17 academic year only
APR_RATE_2016_1000	APR for 2015-16 academic year only
ELIG_RATE_2016	Eligibility rate for 2015-16 academic year only
RET_RATE_2016	Retention rate for 2015-16 academic year only
NUM_OF_ATHLETES_2016	Squad size for 2015-16 academic year only
APR_RATE_2015_1000	APR for 2014-15 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2015	Eligibility rate for 2014-15 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2015	Retention rate for 2014-15 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2015	Squad size for 2014-15 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2014_1000	APR for 2013-14 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2014	Eligibility rate for 2013-14 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2014	Retention rate for 2013-14 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2014	Squad size for 2013-14 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2013_1000	APR for 2012-13 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2013	Eligibility rate for 2012-13 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2013	Retention rate for 2012-13 academic year only

	<i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2013	Squad size for 2012-13 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2012_1000	APR for 2011-12 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2012	Eligibility rate for 2011-12 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2012	Retention rate for 2011-12 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2012	Squad size for 2011-12 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2011_1000	APR for 2010-11 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2011	Eligibility rate for 2010-11 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2011	Retention rate for 2010-11 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2011	Squad size for 2010-11 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2010_1000	APR for 2009-10 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2010	Eligibility rate for 2009-10 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2010	Retention rate for 2009-10 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2010	Squad size for 2009-10 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2009_1000	APR for 2008-09 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2009	Eligibility rate for 2008-09 academic year only <i>This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2009	Retention rate for 2008-09 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2009	Squad size for 2008-09 academic year only

	<i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2008_1000	APR for 2007-08 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2008	Eligibility rate for 2007-08 academic year only <i>This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2008	Retention rate for 2007-08 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2008	Squad size for 2007-08 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2007_1000	APR for 2006-07 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2007	Eligibility rate for 2006-07 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2007	Retention rate for 2006-07 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2007	Squad size for 2006-07 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2006_1000	APR for 2005-06 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2006	Eligibility rate for 2005-06 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2006	Retention rate for 2005-06 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2006	Squad size for 2005-06 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2005_1000	APR for 2004-05 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2005	Eligibility rate for 2004-05 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2005	Retention rate for 2004-05 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2005	Squad size for 2004-05 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
APR_RATE_2004_1000	APR for 2003-04 academic year only

	<i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
ELIG_RATE_2004	Eligibility rate for 2003-04 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
RET_RATE_2004	Retention rate for 2003-04 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
NUM_OF_ATHLETES_2004	Squad size for 2003-04 academic year only <i>*This number is for historical reference only and was not included in the current multiyear calculation.</i>
PUB_AWARD_20	Public recognition award for 2018-19 academic year, awarded in 2020. Coding: 1 = team received award; 0 = team did not receive award <i>Award was announced in spring 2020. Based on data from 2015-16 through 2018-19. See "Public Recognition Award" in the Variable Content section for further explanation.</i>
PUB_AWARD_19	Public recognition award for 2017-18 academic year, awarded in 2019. Coding: 1 = team received award; 0 = team did not receive award <i>Award was announced in spring 2019. Based on data from 2014-15 through 2017-18. See "Public Recognition Award" in the Variable Content section for further explanation.</i>
PUB_AWARD_18	Public recognition award for 2016-17 academic year, awarded in 2018. Coding: 1 = team received award; 0 = team did not receive award <i>Award was announced in spring 2018. Based on data from 2013-14 through 2016-17. See "Public Recognition Award" in the Variable Content section for further explanation.</i>
PUB_AWARD_17	Public recognition award for 2015-16 academic year, awarded in 2017. Coding: 1 = team received award; 0 = team did not receive award <i>Award was announced in spring 2017. Based on data from 2012-13 through 2015-16. See "Public Recognition Award" in the Variable Content section for further explanation.</i>
PUB_AWARD_16	Public recognition award for 2014-15 academic year, awarded in 2016. Coding: 1 = team received award; 0 = team did not receive award <i>Award was announced in spring 2016. Based on data from 2011-12 through 2014-15. See "Public Recognition Award" in the Variable Content section for further explanation.</i>
PUB_AWARD_15	Public recognition award for 2014-15 academic year, awarded in 2015. Coding: 1 = team received award; 0 = team did not receive award

	<p><i>Award was announced in spring 2015. Based on data from 2010-11 through 2014-15. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_14	<p>Public recognition award for 2012-13 academic year, awarded in 2014</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2014. Based on data from 2009-10 through 2012-13. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_13	<p>Public recognition award for 2011-12 academic year, awarded in 2013</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2013. Based on data from 2008-09 through 2011-12. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_12	<p>Public recognition award for 2010-11 academic year, awarded in 2012</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2012. Based on data from 2007-08 through 2010-11. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_11	<p>Public recognition award for 2009-10 academic year, awarded in 2011</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2011. Based on data from 2006-07 through 2009-10. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_10	<p>Public recognition award for 2008-09 academic year, awarded in 2010</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2010. Based on data from 2005-06 through 2008-09. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_09	<p>Public recognition award for 2007-08 academic year, awarded in 2009</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2009. Based on data from 2004-05 through 2007-08. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_08	<p>Public recognition award for 206-07 academic year, awarded in 2008</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2008. Based on data from 2003-04 through 2006-07. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>

PUB_AWARD_07	<p>Public recognition award for 2005-06 academic year, awarded in 2007</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2007. Based on data from 2003-04 through 2005-06. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>
PUB_AWARD_06	<p>Public recognition award for 2004-05 academic year, awarded in 2006</p> <p>Coding: 1 = team received award; 0 = team did not receive award</p> <p><i>Award was announced in spring 2006. Based on data from 2003-04 through 2004-05. See "Public Recognition Award" in the Variable Content section for further explanation.</i></p>

**Note: The prefix "SCL_" before the variable indicates the unit of analysis is at the school level. No prefix indicates the unit of analysis is at the squad level.*

Note: In an effort to ensure confidentiality, this file was carefully examined for low cell sizes. If a squad size value of 3 or fewer (multi-year or yearly) was detected, it is treated as missing in this data set; same procedures are used for other variables (such as APR rate, retention rate, or eligibility rate) of the respective squad (with squad size of 3 or fewer).