DOO-WOPoly

by

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Students interested in music and economics might wonder what is an appropriate measure of recording success. In the absence of weekly sales figures or the number of radio plays, there is information only on a song’s peak position and the total number of weeks on the popular music charts. Yet, how does one compare a hit single that reached, say, Number Ten and spent fifteen weeks on the charts to another hit single that reached a higher peak position but spent less time on the charts? How might one convey the magnitude of the musical success of one songwriter or group vis-à-vis another? In particular, were compositions by Paul McCartney any more (or less) successful than those by fellow Beatle John Lennon? And how did the songs written and recorded by the Beatles compare with the chart achievements of the Rolling Stones?

Points are assigned for a song’s weekly position on the “Top 100” singles chart [The Cash Box Singles Charts, 1950-1981, Hoffman, 1983]: 100 for Number One, 99 for Number Two, and so forth. To assess the relative popularity of singles by McCartney or Lennon of the Beatles between 1964 and 1970, total points were regressed against peak position (PEAK), the number of weeks the single spent on the charts (WEEKS), and a 0-1 binary variable which is equal to “1” where Paul McCartney is the lead singer; zero, otherwise. The regression results are:
\[ POINTS = -53.80 - 1.87 \text{ PEAK} + 87.89 \text{ WEEKS} + 23.84 \text{ McCartney} \]
\[
\begin{array}{cccc}
0.65 & 1.96 & 13.35 & 0.88 \\
\end{array}
\]
\[ R^2 = .96 \]

where absolute t-ratios are in parentheses. When Paul McCartney was the lead singer (and typically the chief creative force behind the song), his singles were marginally but not statistically more popular than those in which John Lennon was the lead singer. Other obvious comparisons are possible involving George Harrison and Ringo Starr or songs where there was no one lead singer, for example, John and Paul’s earliest hit singles.

For the same period (1964-70), compositions by Jagger-Richards were challenging Lennon-McCartney as the dominant British Invasion songwriters. Point totals for the top singles by the Beatles and the Rolling Stones were compared with the following results:

\[ POINTS = 45.48 - 4.65 \text{ PEAK} + 75.34 \text{ WEEKS} + 59.22 \text{ Beatles} \]
\[
\begin{array}{cccc}
0.59 & 5.15 & 12.57 & 2.02 \\
\end{array}
\]
\[ R^2 = .93 \]

After accounting for differences in peak position and chart duration, the Beatles (whose hits are represented by a binary variable) were significantly more popular \((p = .047)\) than the Rolling Stones before the former group’s disbanding in 1970.