

## 5.8.4 Example 5: Field-Weighted Citation Impact

**Scenario:** The user would like to calculate the Field-Weighted Citation Impact of an entity that consists of 3 publications. They have not selected any viewing or calculation options.

| Entity with 3 Publications   |  |   |                                |                             |  |
|--|--|---|--------------------------------|-----------------------------|--|
| Publication Identity   | Publication 1  | Publication 2   |                                | Publication 3               |  |
| Publication year (pub year)  | 2009   | 2010  |                                | 2013                        |  |
| Publication type   | Article  | Review  |                                | Erratum                     |  |
| Journal Category(ies)  | Immunology   | Immunology  | Parasitology                   | Parasitology                |  |
| Compute number of citations received by publications in entity.        |  |   |                                |                             |  |
| Step 1   | • Actual citations received in pub year  | 2   | 12                             |                             | 0  |
|  | • Actual citations received in 1st year after pub year   | 3   | 23                             |                             | N/A<br>(Example prepared in 2013)              |
|  | • Actual citations received in 2nd year after pub year   | 13  | 28                             |                             | N/A<br>(Example prepared in 2013)              |
|  | • Actual citations received in 3rd year after pub year   | 23  | 45                             |                             | N/A<br>(Example prepared in 2013)              |
|  | • Actual citations received by the individual publication in pub year plus following 3 years   | $2 + 3 + 13 + 23 = 41$  | $12 + 23 + 28 + 45 = 108$      |                             | $= 0$  |
| Compute expected number of citations received by similar publications. |  |   |                                |                             |  |
| Step 2   | • Number of publications in database published in same year, of same type, and within same journal category as publication 1, 2, or 3  | 7,829.60  | 1,349.80                       | 161.90                      | 8.30   |
|  | • Total Citations received in pub year plus 3 years by all publications in the database published in same year, of same type, and within the same journal category as Publication 1, 2, or 3 | 141,665.20  | 35,770.80                      | 2,161.50                    | 0.00   |
|  | • Average citation per publication for all publications in database published in same year, of same type, and within the same journal category as Publication 1, 2, or 3                     | $141,665.20 / 7,829.60 = 18.09$   | $35,770.80 / 1,349.80 = 26.50$ | $2,161.50 / 161.90 = 13.35$ | $0.00 / 8.30 = 0.00$                           |
| Step 3   | • Use harmonic mean to compute expected number of citations for publications indexed in multiple journal categories  | $2 / (1/26.50 + 1/13.35)$   |                                |                             |  |
|  | • Combined average citations per publication for publications indexed in multiple journal categories   | 17.76   |                                |                             |  |
| Step 4   | Compute ratio of actual (result of step 1) to expected (result of step 2 or 3) citations for each of Publications 1, 2 and 3   | $41 / 18.09 = 2.27$   | $108 / 17.76 = 6.08$           |                             | No. citations received or expected => 0 = 0.00 |
| Step 5   | Take arithmetic mean of the results of step 4 to calculate Field-Weighted Citation Impact for this entity  | Arithmetic Mean<br>$(2.27 + 6.08 + 0.00) / 3$<br><b>Field-Weighted Citation Impact = 2.78</b> |                                |                             |  |