

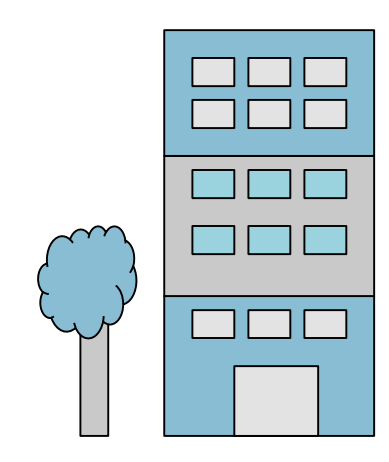
Bibliometric Analysis and Funding Success to Evaluate an Organization's Research Grant Decisions

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INTRODUCTION

Manitoba Medical Service Foundation (MMSF)



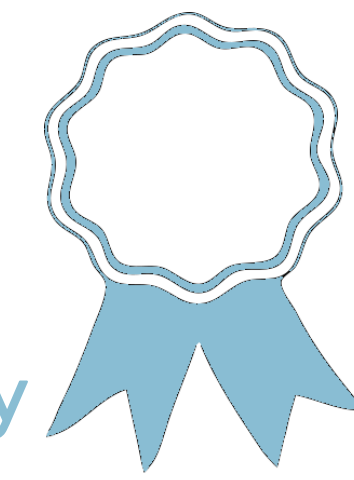
Non-profit founded in 1971 to support and fund health research and education

\$20.1 million in funding awarded



Focus is health research investigators in their first 3 years

20-35 grants awarded annually



- Wanted to investigate their research grant process to determine if they were choosing the best candidates
- Research asked two questions:

QUESTION #1

Is the grant review process selecting candidates who go on to demonstrate greater research output than those not funded?

QUESTION #2

What is the local multiplier effect (LME) after MMSF funding?

LME = increased economic benefit when money is spent locally

METHODS

Step 1

- 88 successful candidates
- 37 unsuccessful candidates
- Between 2008 – 2012
- \$1.9 million in MMSF funding

Step 2

- Names searched in Scopus Author Index

Step 3

- Number of publications recorded
- *h*-index recorded

Step 4

- Names searched in 3 national funding agency databases (Tri-Council Agencies)
- Canadian Institutes for Health Research (CIHR)
- Social Sciences and Humanities Research Council (SSHRC)
- National Sciences and Engineering Research Council (NSERC)

Step 5

- Total Tri-Council funding received recorded
- Funding received as a Principal Investigator recorded

RESULTS

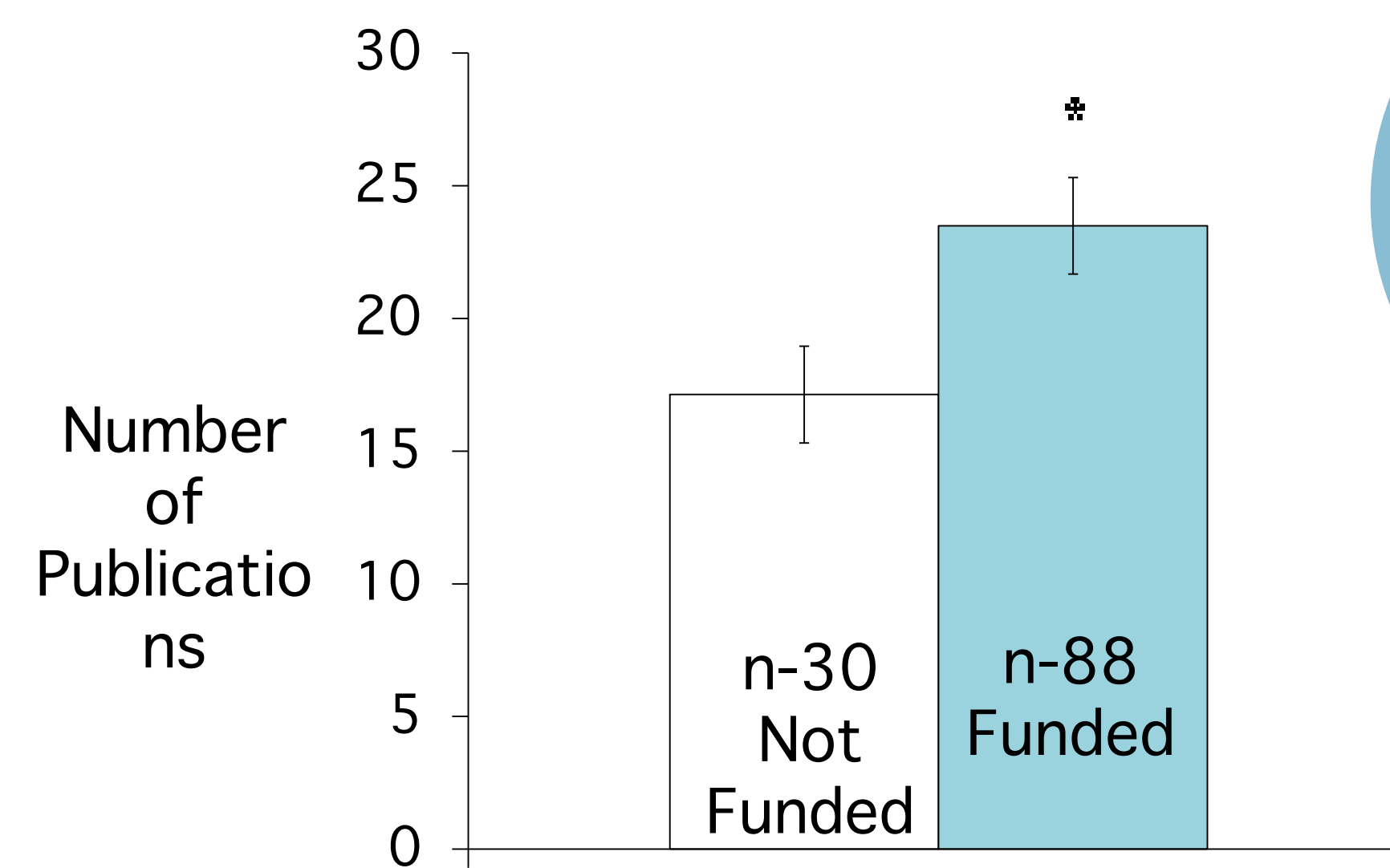


Figure 1. Publications: Comparison of research output in MMSF applicants

FINDING
MMSF Funded Researchers have more subsequent publications than non-funded

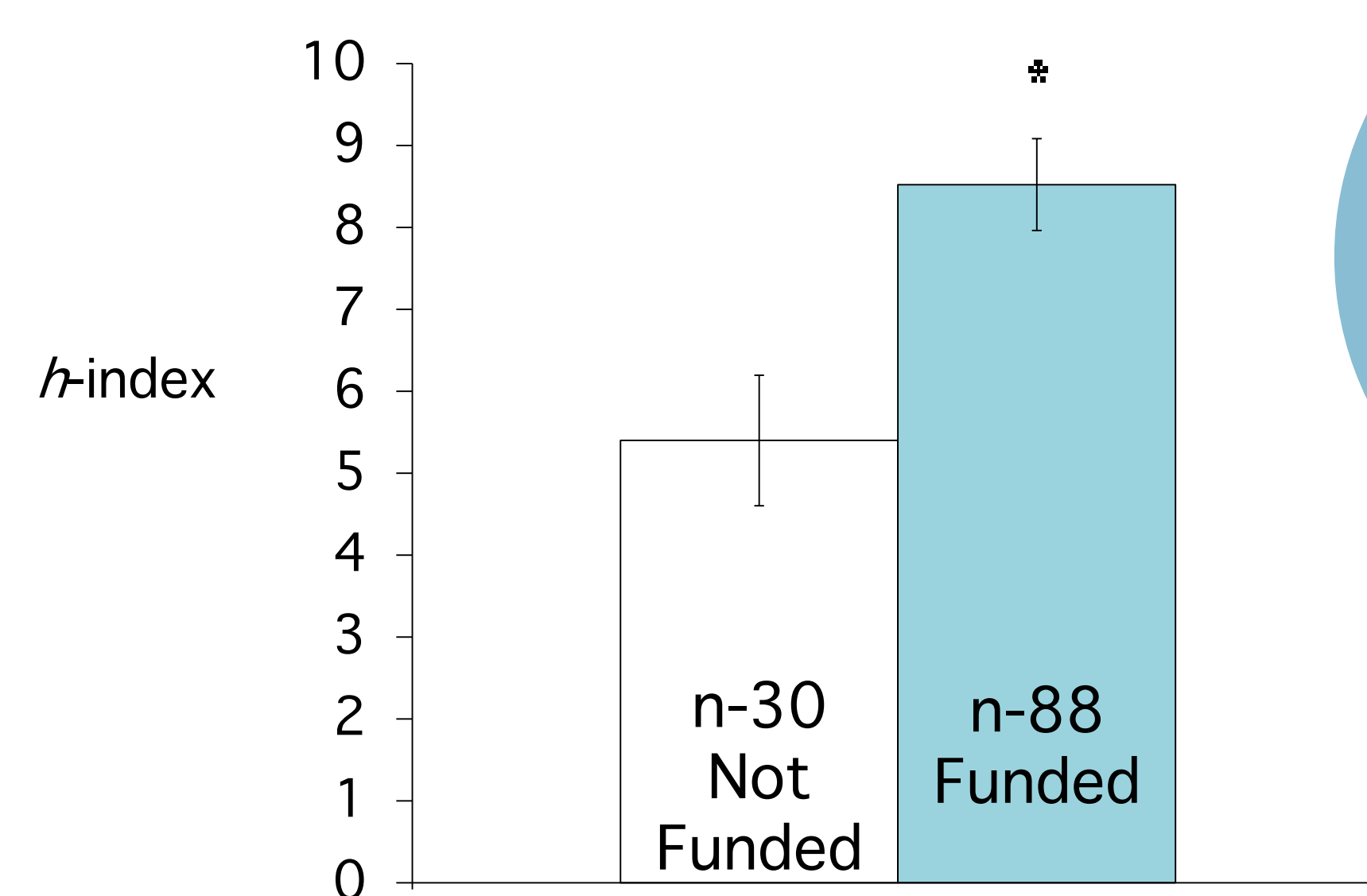


Figure 2. *h*-index: Comparison of research output in MMSF applicants

FINDING
MMSF funded researchers have a higher subsequent *h*-index than non-funded

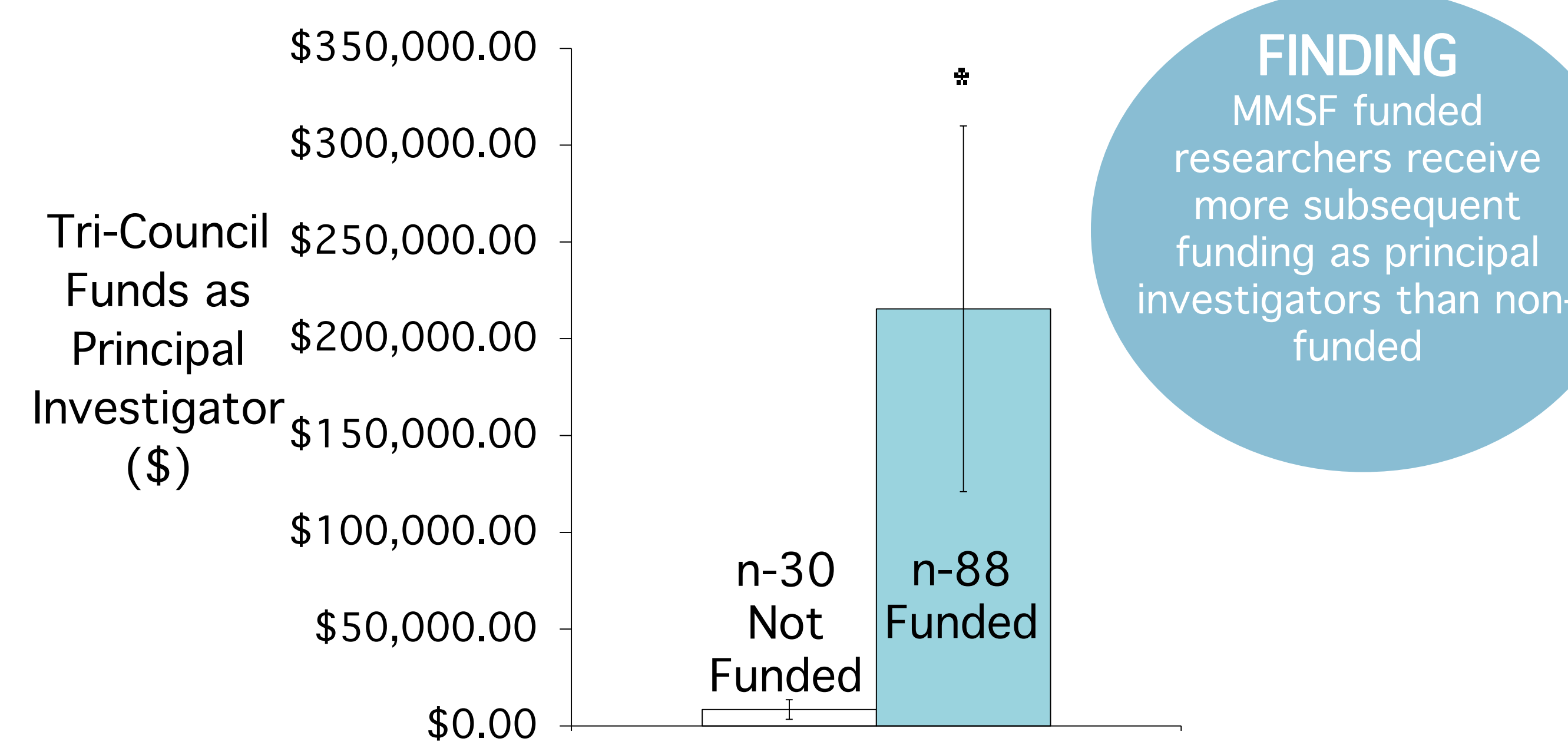


Figure 3. Tri-Council funding (CIHR, SSHRC, NSERC) as Principal Investigator: Comparison of research productivity

FINDING
MMSF funded researchers receive more subsequent funding as principal investigators than non-funded

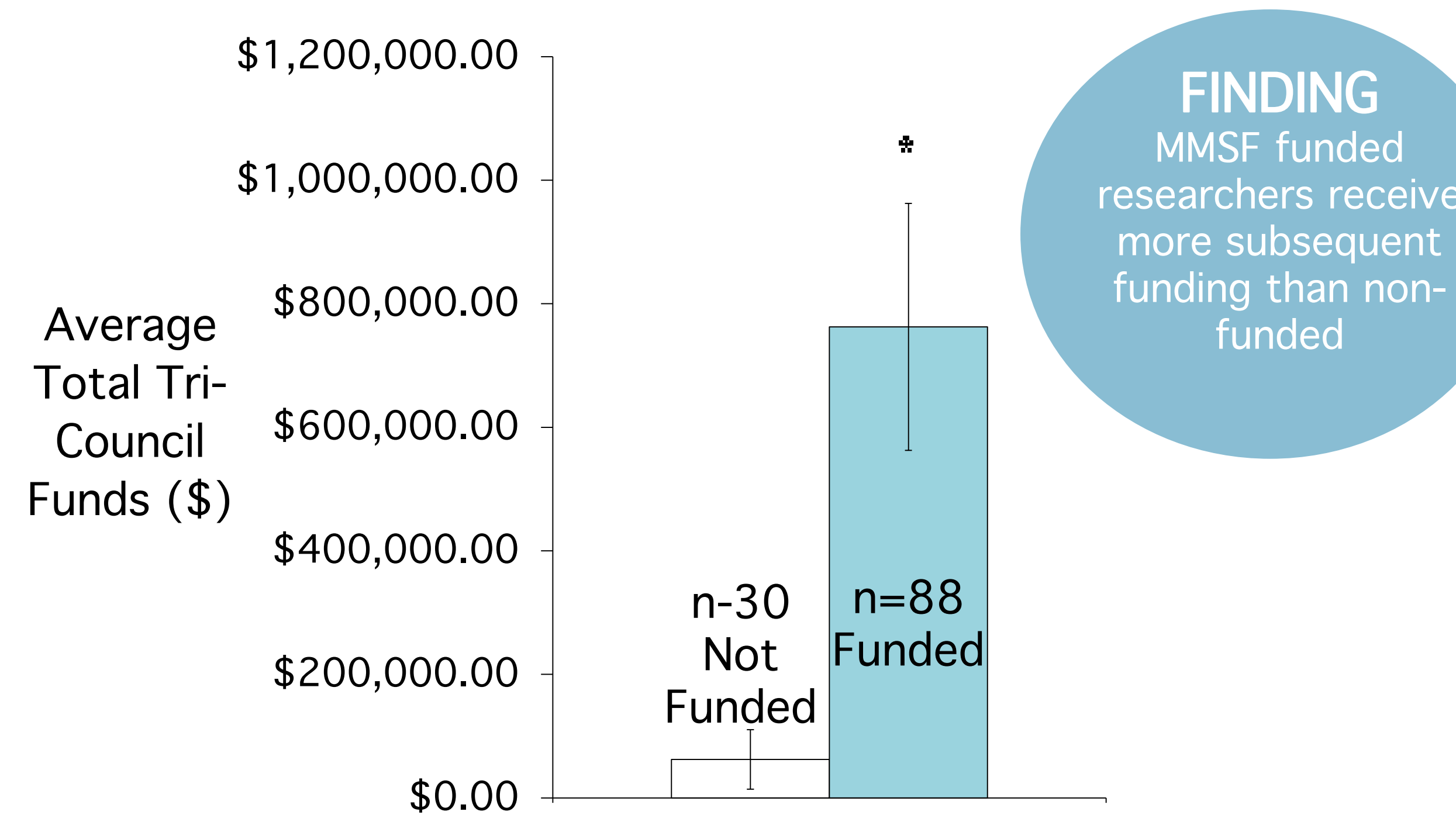


Figure 4. Tri-Council funding (CIHR, SSHRC, NSERC): Comparison of research productivity

FINDING
MMSF funded researchers receive more subsequent funding than non-funded

RESULTS (cont'd)

| Award Year (2008 thru 2012) | Total |
|--|-------------|
| Tri-Council Funding Received as PI (MMSF Not Funded) | \$254,272 |
| Tri-Council Funding Received (MMSF Not Funded) | \$1,869,998 |
| Total MMSF Funding Received | \$1,912,300 |
| Tri-Council Funding Received as PI (MMSF Funded) | 2 |
| Tri-Council Funding Received (MMSF Funded) | \$67,099,92 |
| Local Multiplier Effect (LME) | 34:1 |

FINDING
Within 1-5 years, for every \$1 spent on MMSF researchers, \$10 is brought back in future funding by grants by the principal investigators, and \$34 is brought back on collaborative grants

Table 1. Relationship between amount of MMSF funding and local multiplier effect (LME)

DISCUSSION

ANSWER #1

The selection process used by MMSF to select successful grant applicants is working. Funded researchers go on to greater academic output and productivity than non-funded

- More publications
- Higher *h*-index
- More funding as a Principal Investigator
- More funding as a collaborator

ANSWER #2

Funded MMSF researchers are subsequently successful in bringing external funding (Tri-Council grants) back to the Province of Manitoba within 1-5 years of their MMSF grant

- MMSF provided \$1.9 million in grants
- \$18.9 million was received in external funds to MMSF researchers who applied as Principal Investigators (LME of 10:1)
- \$67 million was received in external funds to MMSF researchers who applied as collaborators (LME of 34:1)

The seed funding provided by the Manitoba Medical Services Foundation for Manitoba researchers is a good investment

Implications for Libraries

More institutions and organizations are being asked to show the value and impact of their research. Libraries have a leading role to play in their ability to provide meaningful and relevant metrics



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