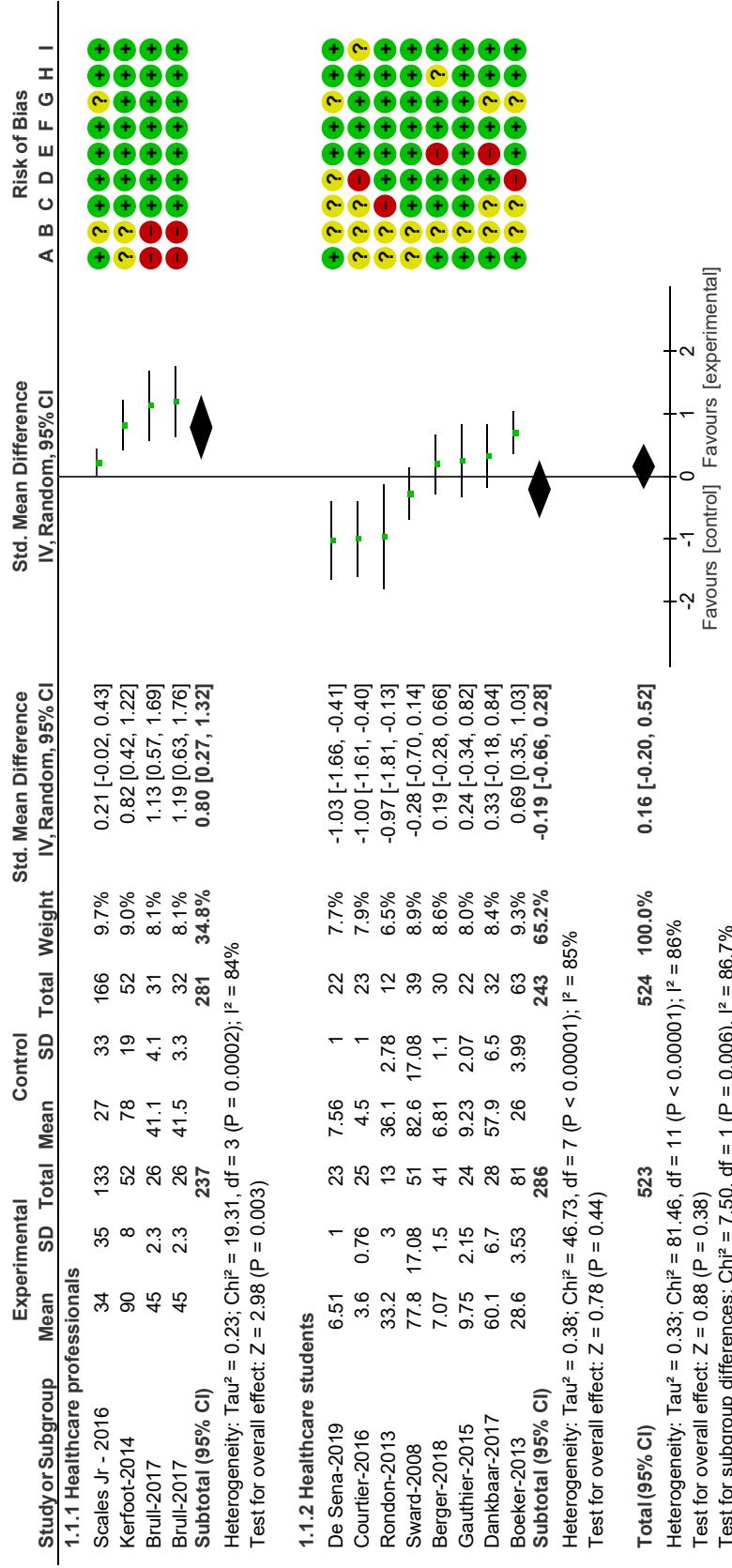




## Efficacy of serious games in healthcare professions education

18-Dec-2019

### 1.1 Knowledge



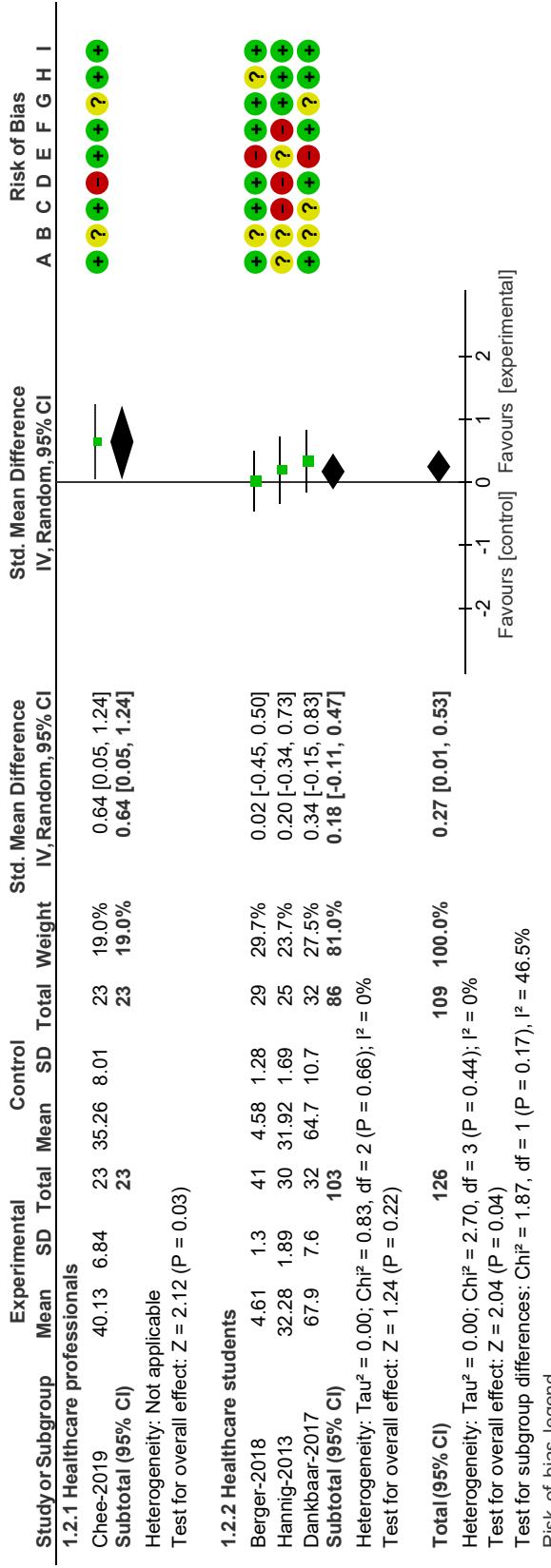
#### Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Similarity of baseline outcome measurements
- (D) Baseline characteristics similar
- (E) Incomplete outcome data (attrition bias)
- (F) Knowledge of the allocated interventions
- (G) Protection against contamination
- (H) Selective reporting (reporting bias)
- (I) Other bias

## Efficacy of serious games in healthcare professions education

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### 1.2 Confidence in skills



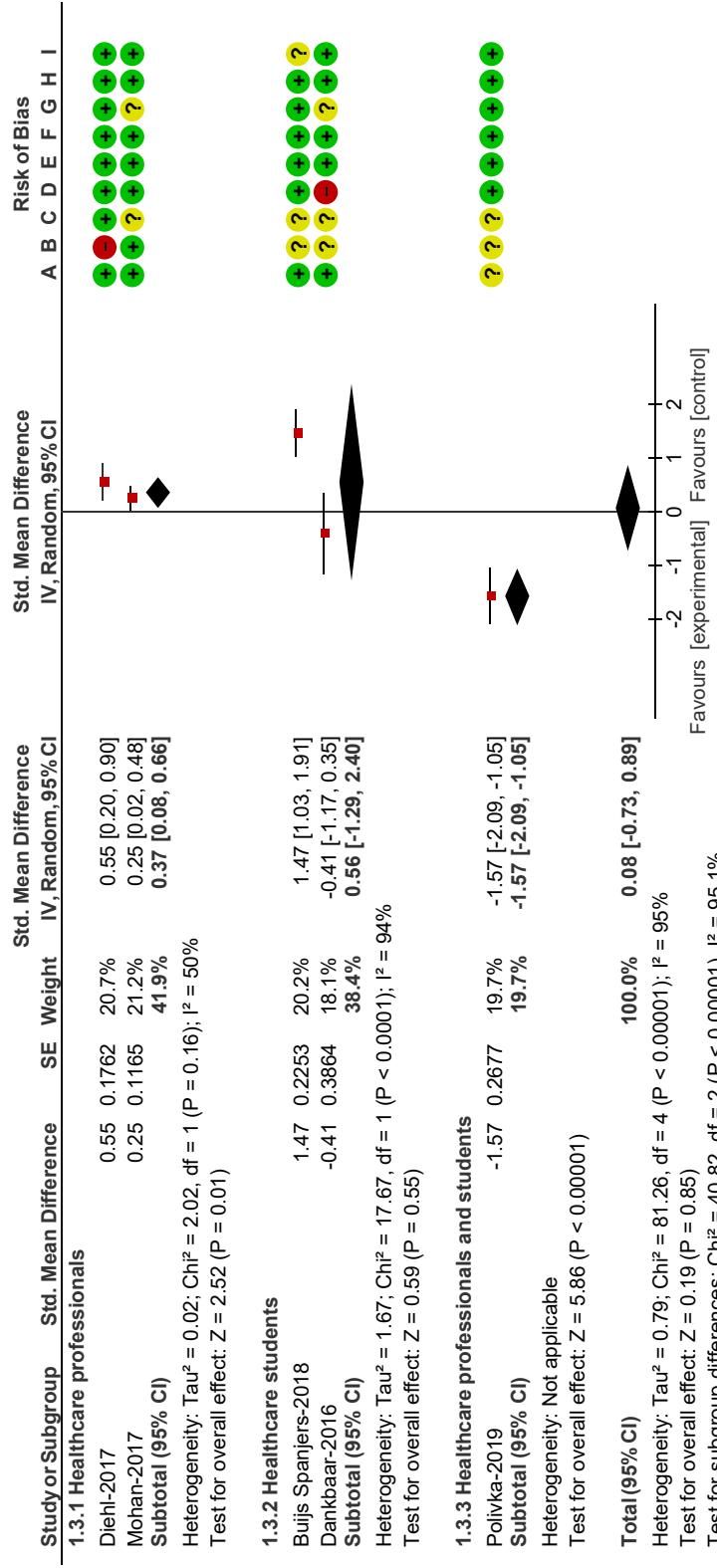
### Risk of bias legend

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- (H) Selective reporting (reporting bias)
- (I) Other bias

## Efficacy of serious games in healthcare professions education

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### 1.3 Cognitive skills

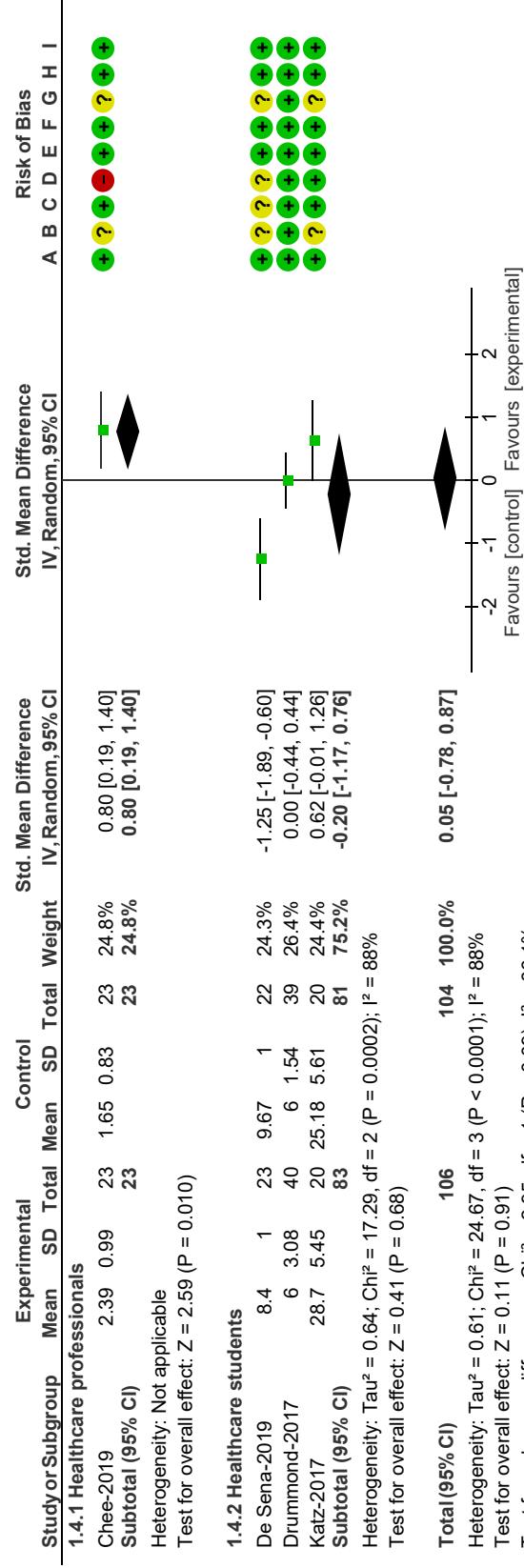


- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Similarity of baseline outcome measurements
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- (I) Other bias

## Efficacy of serious games in healthcare professions education

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### 1.4 Procedural skills



### Risk of bias legend

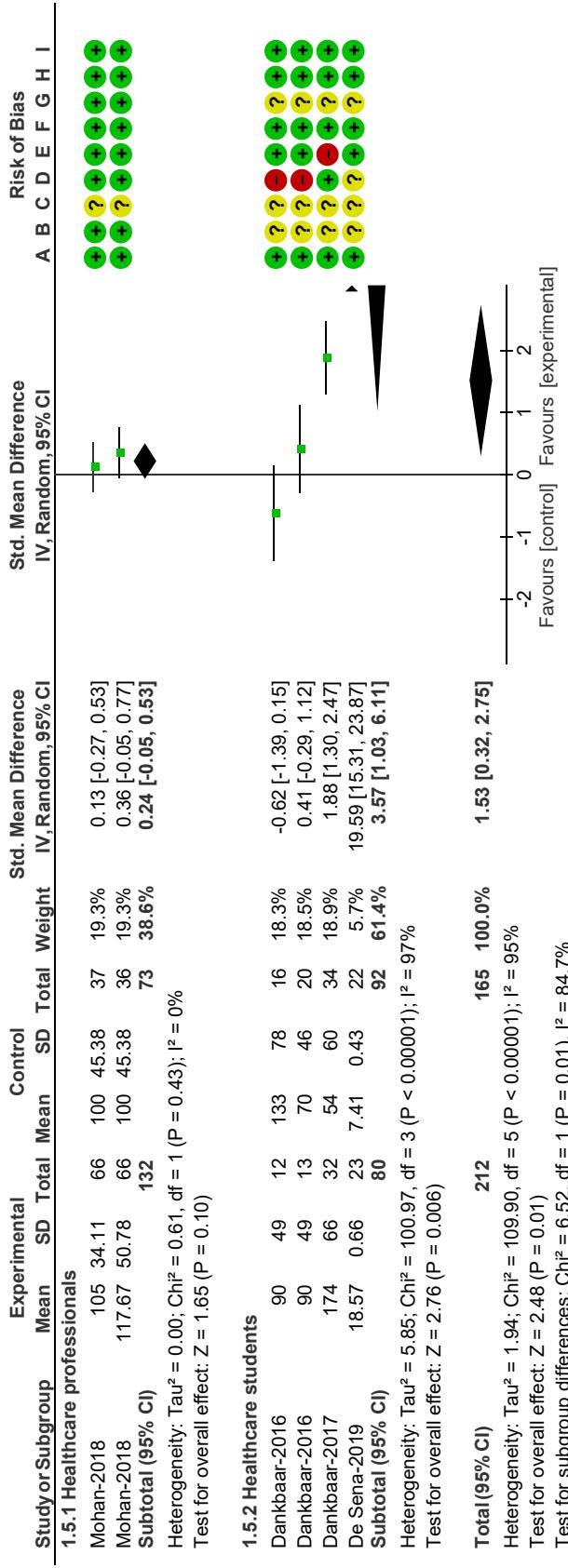
- (A) Random sequence generation (selection bias)
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## Efficacy of serious games in healthcare professions education

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### 1.5 Learning time with the intervention

| Study or Subgroup  | Experimental | Control | Std. Mean Difference | Std. Mean Difference<br>IV, Random, 95% CI |              |    |       |                           |
|--|--------------|---------|----------------------|--|--------------|----|-------|---------------------------|
|  | Mean         | SD      | Total                | Weight                                     |              |    |       |                           |
| <b>1.5.1 Healthcare professionals</b>  |              |         |                      |  |              |    |       |                           |
| Mohan-2018   | 105          | 34.11   | 66                   | 100  | 45.38        | 37 | 19.3% | 0.13 [-0.27, 0.53]        |
| Mohan-2018   | 117.67       | 50.78   | 66                   | 100  | 45.38        | 36 | 19.3% | 0.36 [-0.05, 0.77]        |
| <b>Subtotal (95% CI)</b>   | <b>132</b>   |         | <b>73</b>            |  | <b>38.6%</b> |    |       | <b>0.24 [-0.05, 0.53]</b> |
| Heterogeneity: $\tau^2 = 0.00$ ; Chi $\chi^2 = 0.61$ , df = 1 ( $P = 0.43$ ); I $^2 = 0\%$ |              |         |                      |  |              |    |       |                           |
| Test for overall effect: $Z = 1.65$ ( $P = 0.10$ )   |              |         |                      |  |              |    |       |                           |

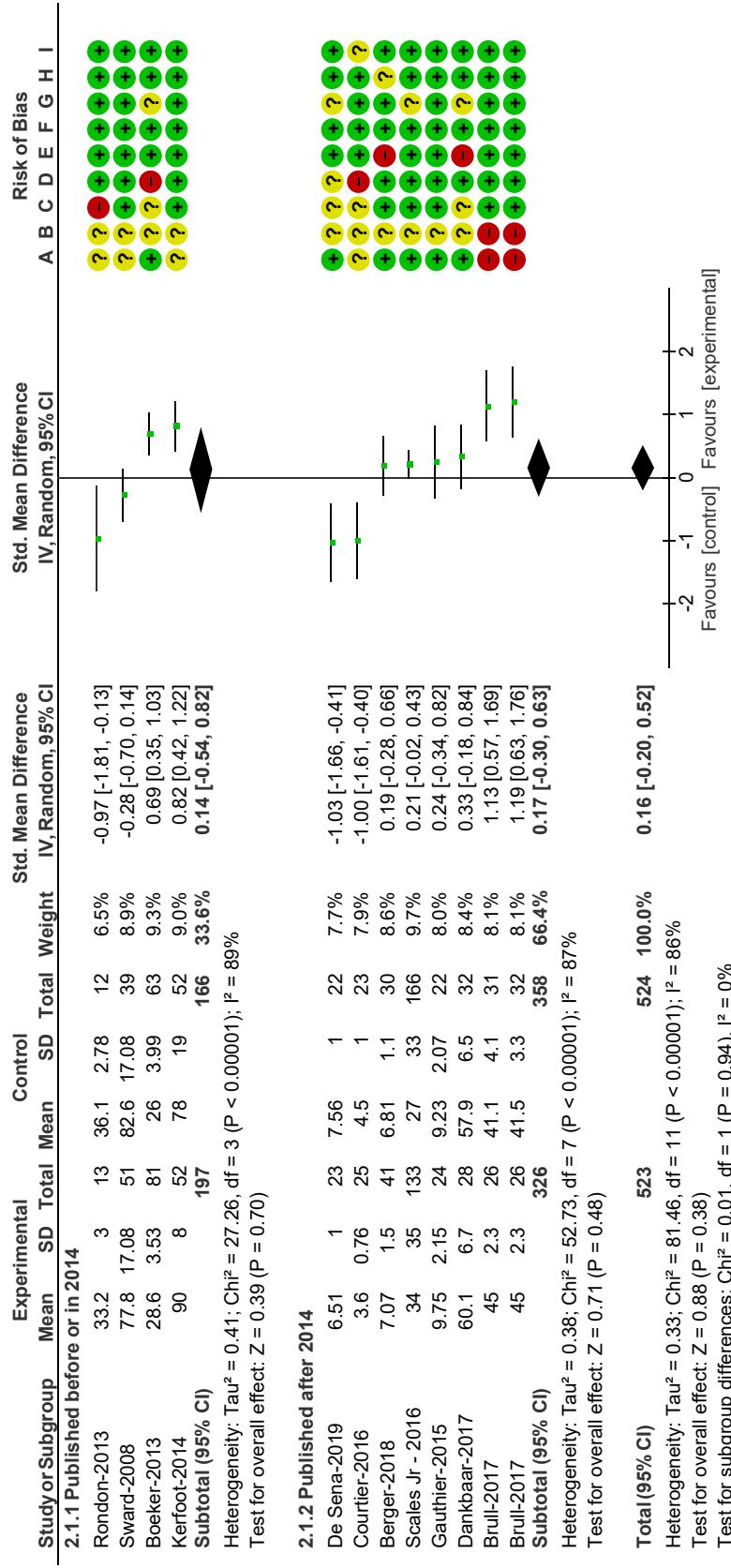


2 Publisher before or in 2014 v. published after 2014

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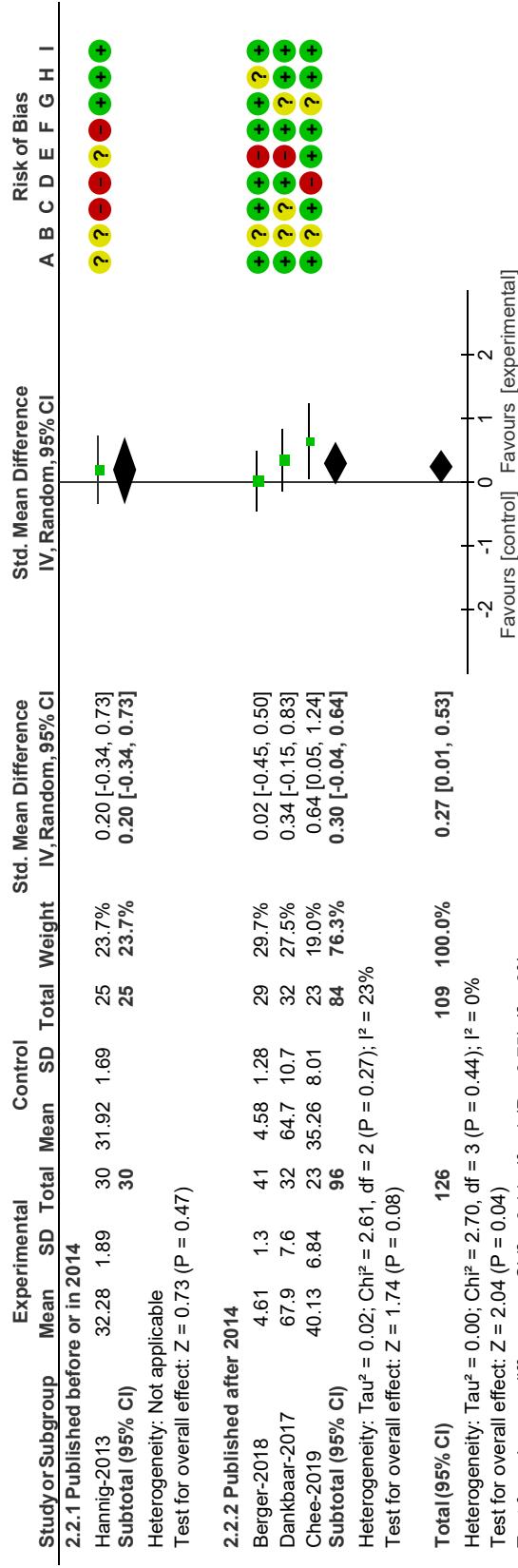
### 2.1 Knowledge



# Efficacy of serious games in healthcare professions education

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## 2.2 Confidence in skills



## Risk of bias legend

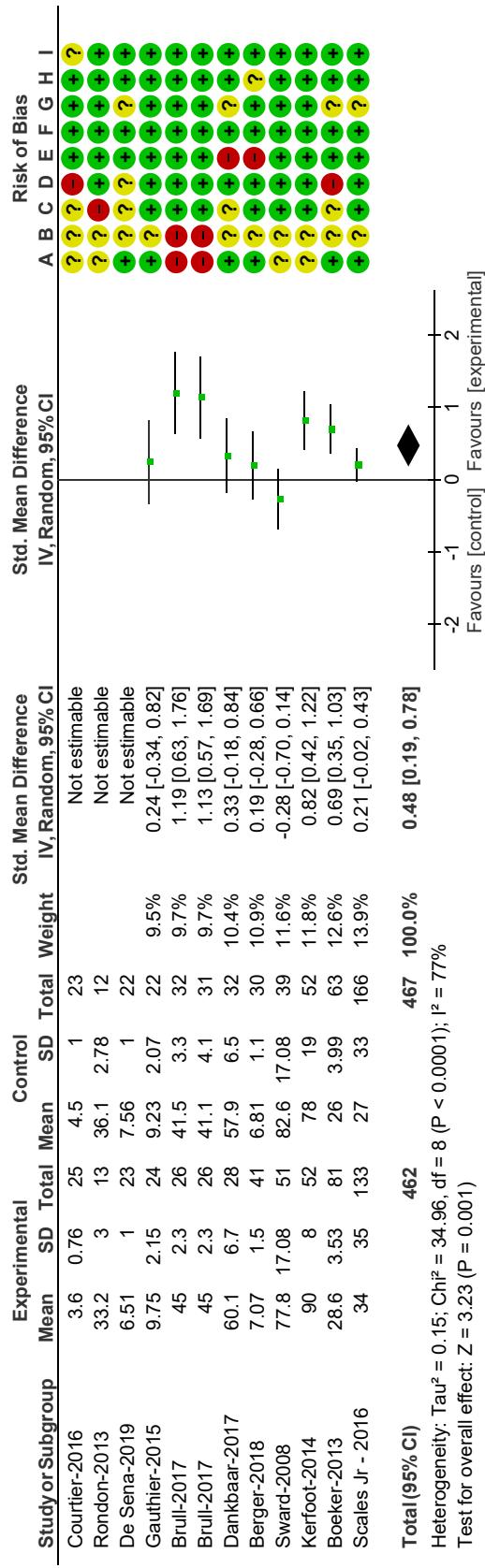
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## 3 Sample size

## Efficacy of serious games in healthcare professions education

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### 3.1 Knowledge



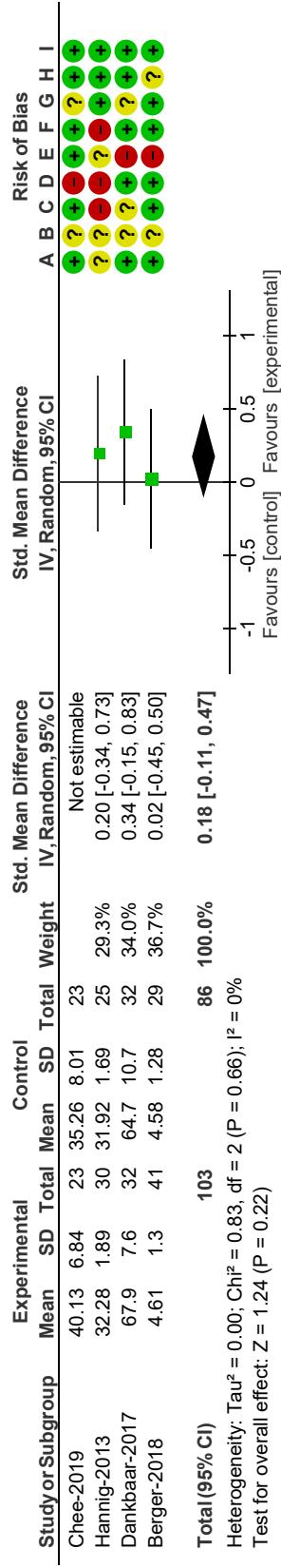
### Risk of bias legend

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## Efficacy of serious games in healthcare professions education

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### 3.2 Confidence in skills



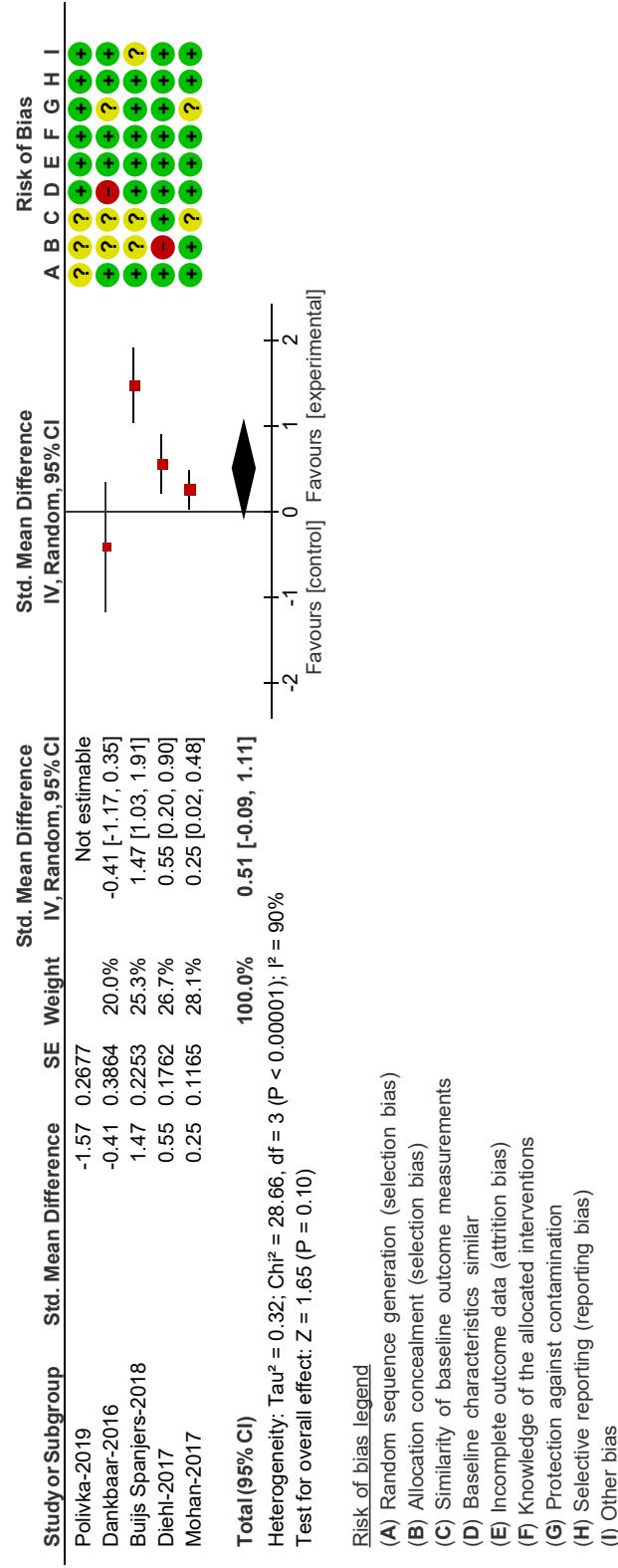
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## Efficacy of serious games in healthcare professions education

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### 3.3 Cognitive skills



## Efficacy of serious games in healthcare professions education

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### 3.4 Procedural skills

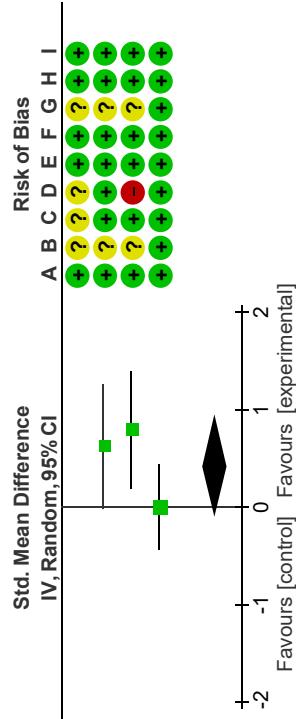
| Study or Subgroup     | Experimental |      |           | Control       |      |       | Std. Mean Difference      |                    |        |
|-----------------------|--------------|------|-----------|---------------|------|-------|---------------------------|--------------------|--------|
|                       | Mean         | SD   | Total     | Mean          | SD   | Total | Weight                    | IV, Random         | 95% CI |
| De Sena-2019          | 8.4          | 1    | 23        | 9.67          | 1    | 22    | Not estimable             |                    |        |
| Katz-2017             | 28.7         | 5.45 | 20        | 25.18         | 5.61 | 20    | 29.8%                     | 0.62 [-0.01, 1.26] |        |
| Chee-2019             | 2.39         | 0.99 | 23        | 1.65          | 0.83 | 23    | 31.3%                     | 0.80 [0.19, 1.40]  |        |
| Drummond-2017         | 6            | 3.08 | 40        | 6             | 1.54 | 39    | 38.9%                     | 0.00 [-0.44, 0.44] |        |
| <b>Total (95% CI)</b> | <b>83</b>    |      | <b>82</b> | <b>100.0%</b> |      |       | <b>0.44 [-0.08, 0.95]</b> |                    |        |

Heterogeneity:  $Tau^2 = 0.13$ ;  $Chi^2 = 5.23$ , df = 2 ( $P = 0.07$ );  $I^2 = 62\%$

Test for overall effect:  $Z = 1.64$  ( $P = 0.10$ )

#### Risk of bias legend

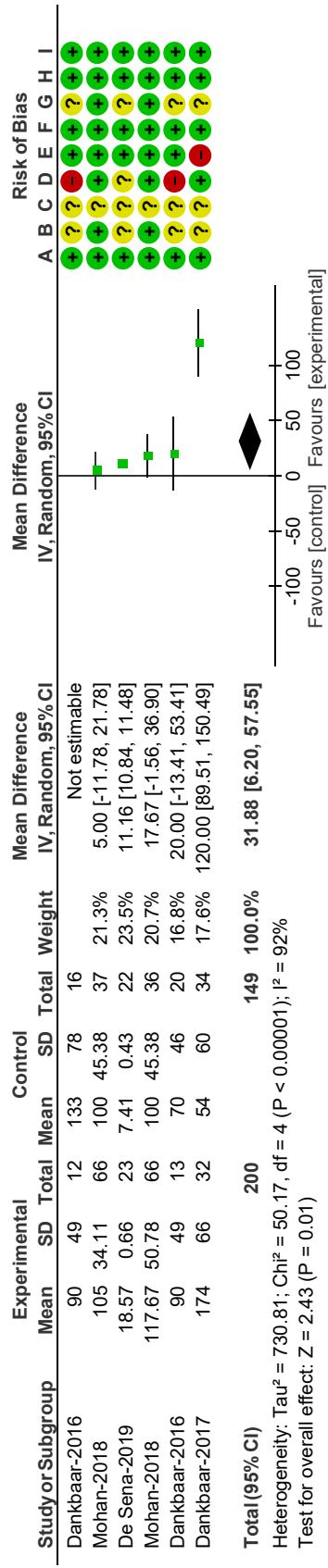
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## Efficacy of serious games in healthcare professions education

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### 3.5 Learning time with the intervention



#### Risk of bias legend

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