**Supplementary Materials**

When Imitating Successful Others Fails:

Accidentally Successful Exemplars Inspire Risky Decisions and can Hamper Performance

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**Successful Exemplars Across Decision-Making Configurations**

Within a risky decision-making context, the most-successful individuals tend to be those who behave in risky ways.Does this pattern emerge in contexts featuring different probabilities that the risky choice would pay off? And would the most-successful exemplars still be the ones who behaved in risky ways when the average level of risk-taking in the sample changes? In Table S1, we represented such possible scenarios. Specifically, the graphs display the likelihood that a given individual, amongst 100 persons, all of whom made 0 through 6 risky choices, will emerge as the most successful. We varied across the columns the probability associated with the positive outcome of the risky decision (i.e., the chance of gaining $2); we varied across the rows the average probability that any individual at any time chooses the risky over the safe option (*p*). Note that the risky-choice payoff is kept constant at $2, which means that expected values will increase[decrease] when the probability of winning the risky bet increases[decreases]. The dark shaded areas represent the likelihood that the most-successful exemplar (or exemplars, in case of ties) exhibited average or below-average risk-taking. The light shaded areas represent the likelihood that the most-successful exemplar(s) scores above-average in risk-taking. The figures demonstrate that these variations in the decision-task still yield the same pattern: The most-successful exemplar(s) still tend to have taken more risks than average. The only exceptions to this tendency are combinations of a high average risk-taking proclivity within the group of decision-makers, combined with a low chance that the risky alternative will reward: an arguably unrealistic configuration given their correspondingly low expected values.

**Pilot for Experiment 3**

**Method**

 The pilot sample consisted of 109 (56 women, 53 men; *M*age = 26.40 *SD*age = 8.02) psychology undergraduates (*n* = 13) and participants recruited through *Prolific.ac* (*n* = 96). Participants in the pilot underwent the same procedure as the main experiment, with one exception: those in the pilot were notified at the start of the study indicating that all suggested payoffs were hypothetical (apart from standard renumeration).

**Results**

A majority of participants opted to view an exemplar (*N* = 65, 60.2%) rather than not (*N* = 43, 39.8%), χ2(1) = 4.41, *p* = .034. This preference was not significantly moderated by outcome magnitudes, χ2(1) = 0.40, *p* = .842. The mean and median outcome of the selected exemplars revealed a clear preference for successful exemplars in both the low (*Mean* = £8.76, *SD* = £4.35, *Median* = £11.10; *Range* = [£0.00, £12.00]) and high outcome magnitude condition (*Mean* = £81.29, *SD* = £41.72, *Median* = £100; *Range* = [£0, £120]. Mean exemplar ranks (after rescaling the exemplar outcomes in the high outcome magnitude condition to £0.00 through £12.00) did not significantly differ between low and high outcome magnitudes (*M*low = 33.40, *M*high = 29.60), *Z* = -0.87, *p* = .387. Furthermore, the most successful exemplar proved most popular of all exemplars (49.1%), followed at a distance by the least successful one (12.9%).

Poisson regression revealed a significant association between mean-centred exemplar outcome position (after rescaling the exemplar outcomes in the high outcome magnitudes condition to £0.00 through £12.00) and participant risk-taking, *B* = 0.07, *SE* = .02, 95%*CI* = [.03, .11], χ2(1) = 10.76, *p* = .001. The manipulation of outcome magnitude neither exerted a significant partial effect, *B* = -0.02, *SE* = .08, 95%*CI* = [-.17, .14], χ2(1) = 0.04, *p* = .839, nor acted as a moderator, *B* = 0.03, *SE* = .02, 95%*CI* = [-.01, .07], χ2(1) = 2.21, *p* = .138.

These initial pilot results offered indicative effects sizes for power estimation. First, the aforementioned Poisson regression produced an association between exemplar position and participant risk-taking equivalent to a Spearman rank correlation of ρ = .35, and a Pearson coefficient of *r* = .39, *p* = .002. A-priori power analysis indicated that detecting a downwards-adjusted correlation coefficient of *r* = .30, with a power of (1 – β) = .95, and a Type-I error of α = .05 (two-tailed) required a sample of 115 participants who chose to view an exemplar. Second, a-priori power analysis indicated that a sample of *N* = 325 was required to achieve a power of (1 – β) = .95, with a Type-I error of α = .05 (two-tailed) to detect a 1.5 ratio in a two-cell contingency table (as per the χ2-test for exemplar selections). To be safe, we rounded this up to a target sample size of *N* = 400 in the main study.

**Poisson Regressions**

The below sections give results from Poisson regressions for each of the analyses of variance (ANOVAs) on risk-taking reported in the main text.

**Experiment 1**

We regressed number of risky gambles undertaken out of six on the exemplar condition in a Poisson regression. The number of risky gambles differed significantly across conditions, χ2(2) = 13.89, *p* = .001. Contrast analyses confirmed that those who inspected the most-successful exemplar’s strategy subsequently made significantly more risky choices (*M*R = 2.56, *SE*R= 0.27, 95%*CI* = [2.07, 3.16]), than those who inspected an average exemplar’s strategy (*M*R = 1.59, *SE*R= 0.22, 95%*CI* = [1.22, 2.07]), χ2(1) = 7.72, *p* = .005, and those who inspected the least-successful exemplar’s strategy (*M*R = 1.33, *SE*R= 0.22, 95%*CI* = [0.96, 1.85]), χ2(1) = 12.05, *p* = .001. These latter two conditions did not differ significantly, χ2(1) = 0.68, *p* = .411. These results suggest that people indeed imitate successful exemplars and increase their own risk-taking.

**Experiment 2**

We regressed number of risky gambles undertaken out of six on the exemplar condition (no exemplar vs. least-successful exemplar vs. average-successful exemplar vs. most-successful exemplar) in a Poisson regression. The number of risky gambles differed significantly across conditions, χ2(3) = 26.57, *p* < .001. Contrast analyses confirmed that those who inspected the most-successful exemplar’s strategy subsequently accepted a significantly higher number of risky gambles (*M*R = 3.22, *SE*R= 0.32, 95%*CI* = [2.65, 3.90]), than those who inspected an average exemplar’s strategy (*M*R = 2.13, *SE*R= 0.20, 95%*CI* = [1.77, 2.55]), χ2(1) = 8.55, *p* = .003, than those who inspected the least-successful exemplar’s strategy (*M*R = 1.00, *SE*R= 0.30, 95%*CI* = [0.55, 1.81]), χ2(1) = 25.71, *p* < .001, and than those who did not view an exemplar (*M*R = 1.89, *SE*R= 0.13, 95%*CI* = [1.64, 2.17]), χ2(1) = 14.98, *p* < .001. Those who viewed the average successful exemplar made significantly more risky choices than those who viewed the least successful exemplar, χ2(1) = 9.81, *p* = .002, and did not significantly differ in number of risky choices from those who did not see an exemplar, χ2(1) = 1.02, *p* = .313. The small number of participants who viewed the least successful exemplar made significantly fewer risky choices compared to those who did not see an exemplar, χ2(1) = 7.26, *p* = .007. These results indicate that people indeed modify their choices in line with those made by a successful exemplar, resulting in inferior outcomes, even when given a free choice in which exemplars to examine.

**Experiment 3**

 In a Poisson regression we examined the number of risk choices between those who viewed a successful exemplar, those who selected another exemplar, and those who did not select an exemplar at. The number of risky gambles differed significantly across these three groups, χ2(2) = 27.83, *p* < .001. Indeed, those who viewed the most successful exemplar made more risky choices (*M*R = 3.22, *SE*R= 0.19, 95%*CI* = [2.87, 3.62]) than those who selected another exemplar (*M*R = 2.24, *SE*R= 0.12, 95%*CI* = [2.01, 2.49), χ2(1) = 18.95, *p*Bonferroni < .001, and those who did not view an exemplar at all (*M*R = 2.20, *SE*R= 0.12, 95%*CI* = [1.97, 2.46]), χ2(1) = 20.42, *p*Bonferroni < .001. Risk-taking and expected values did not significantly differ between those who did not view any exemplar and those who selected an exemplar which was not the most successful one, χ2(1) = 0.06, *p*Bonferroni = 1.000.

**Experiment Materials**

The following sections contain the materials used for the Experiments, presented on computer screen as separate ‘pages’.

**Materials Experiment 1**

**Page 1.**

Please read the following instructions very carefully:

In a moment, you will take part in a 'decision-task'. This task works as follows:

You, as well as 99 other MTurk participants, will be asked to make six times a decision between the following options:

**Safe option:** With 100% certainly, you win $1.10.

**Risky option:** There is a 50% chance that you win $2 and a 50% chance that you win nothing.

When the data from all 100 participants of this study have been collected, we will randomly draw 1 participant who will receive the earned money as a bonus.

For example, if you are selected in the draw and you chose the safe option 5 times and the risky one 1 time, then you win a bonus of $5.50 plus a 50% change of an additional $2.

Are you confident that you understand how the decision-task works?

[ ] Yes [ ] No

**Page 2.**

Before making the six decisions, you will be allowed to view the decision that an (anonymous) participant in a previous decision-task identical to this one made. At random, we will either show you the participant who won the least amount, an average amount, or the highest amount. Thus, you will be able to view how many safe and/or risky choices this previous participant made to obtain his/her winnings.

**Page 3 (least successful exemplar condition).**

The participant with the least winnings in the previous decision-task made the following choices:

**Safe Option:** 1 time

**Risky Option:** 5 times

This participant accumulated $1.10 in total.

**Page 3 (average successful exemplar condition).**

The participant with the average winnings in the previous decision-task made the following choices:

**Safe Option:** 4 times

**Risky Option:** 2 times

This participant accumulated $6.40 in total.

**Page 3 (most successful exemplar condition).**

The participant with the most winnings in the previous decision-task made the following choices:

**Safe Option:** 1 time

**Risky Option:** 5 times

This participant accumulated $11.10 in total.

**Page 4.**

Now, please decide how many times of your total 6 choices you want to select the Safe Option or the Risky Option.

Remember: When the data from all 100 participants of this study have been collected, we will randomly draw 1 participant who will receive the earned money as a bonus.

Choice 1: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 2: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 3: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 4: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 5: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 6: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

**Page 5.**

Please indicate your country of citizenship: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your age? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your gender? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your MTurk ID? We will use this to reward you your winnings if you are selected in the draw. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Materials Experiment 2**

**Page 1.**

Please read the following instructions very carefully:

In a moment, you will take part in a 'decision-task'. This task works as follows:

You, as well as 99 other MTurk participants, will be asked to make six times a decision between the following options:

**Safe option:** With 100% certainly, you win $1.10.

**Risky option:** There is a 50% chance that you win $2 and a 50% chance that you win nothing.

When the data from all 100 participants of this study have been collected, we will randomly draw 1 participant who will receive the earned money as a bonus.

For example, if you are selected in the draw and you chose the safe option 5 times and the risky one 1 time, then you win a bonus of $5.50 plus a 50% change of an additional $2.

Are you confident that you understand how the decision-task works?

[ ] Yes [ ] No

**Page 2 (exemplar condition only).**

Before making the six decisions, you will be allowed to view the decision that an (anonymous) participant in a previous decision-task identical to this one made. You can choose yourself whether you get to see the choices of the participant who won the least amount, an average amount, or the highest amount. Thus, you will be able to view how many safe and/or risky choices this previous participant made to obtain his/her winnings.

Which participants’ choices do you prefer to see?

[ ] Those of the participant with the least winnings

[ ] Those of the participant with the average winnings

[ ] Those of the participant with the most winnings

**Page 3 (exemplar condition only; least successful exemplar condition).**

The participant with the least winnings in the previous decision-task made the following choices:

**Safe Option:** 1 time

**Risky Option:** 5 times

This participant accumulated $1.10 in total.

This person has high status within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

This person is respected within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

**Page 3 (exemplar condition only; average successful exemplar condition).**

The participant with the average winnings in the previous decision-task made the following choices:

**Safe Option:** 4 times

**Risky Option:** 2 times

This participant accumulated $6.40 in total.

This person has high status within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

This person is respected within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

**Page 3 (exemplar condition only; most successful exemplar condition).**

The participant with the most winnings in the previous decision-task made the following choices:

**Safe Option:** 1 time

**Risky Option:** 5 times

This participant accumulated $11.10 in total.

This person has high status within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

This person is respected within this decision-task.

*Not at all* 1 2 3 4 5 6 7 *Very much*

**Page 4 (all conditions).**

Now, please decide how many times of your total 6 choices you want to select the Safe Option or the Risky Option.

Remember: When the data from all 100 participants of this study have been collected, we will randomly draw 1 participant who will receive the earned money as a bonus.

Choice 1: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 2: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 3: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 4: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 5: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 6: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

**Page 5.**

Please indicate your country of citizenship: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your age? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your gender? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your MTurk ID? We will use this to reward you your winnings if you are selected in the draw. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Materials Experiment 3**

**Page 1 (low outcome magnitudes condition).**

Please read the following instructions very carefully:

In a moment, you will take part in a 'decision-task'. This task works as follows:

You, as well as other MTurk participants, will be asked to make six times a decision between the following options:

**Safe option:** With 100% certainly, you win $1.10.

**Risky option:** There is a 50% chance that you win $2 and a 50% chance that you win nothing.

When the data from all participants of this study have been collected, we will randomly draw 1 participant for each 50 participants who will receive the earned money as a bonus.

For example, if you are selected in the draw and you chose the safe option 5 times and the risky one 1 time, then you win a bonus of $5.50 plus a 50% change of an additional $2.

Are you confident that you understand how the decision-task works?

[ ] Yes [ ] No

**Page 1 (high outcome magnitudes condition).**

Please read the following instructions very carefully:

In a moment, you will take part in a 'decision-task'. This task works as follows:

You, as well as other MTurk participants, will be asked to make six times a decision between the following options:

**Safe option:** With 100% certainly, you win $11.

**Risky option:** There is a 50% chance that you win $20 and a 50% chance that you win nothing.

When the data from all participants of this study have been collected, we will randomly draw 1 participant for each 50 participants who will receive the earned money as a bonus.

For example, if you are selected in the draw and you chose the safe option 5 times and the risky one 1 time, then you win a bonus of $55 plus a 50% change of an additional $20.

Are you confident that you understand how the decision-task works?

[ ] Yes [ ] No

**Page 2 (low outcome magnitudes condition; note that exemplars were presented in ascending or descending order [counterbalanced]).**

Before making the six decisions, you will be allowed to view the decision that an (anonymous) participant in a previous decision-task identical to this one made, if you would like to do so. You can choose yourself whether you get to see the choices of a participant who won anything from the least to the highest possible outcome. Thus, if you like, you will be able to view how many safe and/or risky choices this previous participant made to obtain his/her outcome.

If you **would** like to see the choices of a previous (anonymous) participant before you make your own choices then select from the list below whose choices you want to see. If you **would not** like to see the choices of a previous (anonymous) participant then select the corresponding box on the bottom of this screen.

|  |  |  |  |
| --- | --- | --- | --- |
| [ ] £0.00 | [ ] £4.20 | [ ] £6.40 | [ ] £8.40 |
| [ ] £1.10 | [ ] £4.40 | [ ] £6.60 | [ ] £9.10 |
| [ ] £2.00 | [ ] £5.10 | [ ] £7.10 | [ ] £9.30 |
| [ ] £2.20 | [ ] £5.30 | [ ] £7.30 | [ ] £10.00 |
| [ ] £3.10 | [ ] £5.50 | [ ] £7.50 | [ ] £10.20 |
| [ ] £3.30 | [ ] £6.00 | [ ] £8.00 | [ ] £11.10 |
| [ ] £4.00 | [ ] £6.20 | [ ] £8.20 | [ ] £12.00 |

[ ] I do not want to see the choices made by a previous participant

**Page 2 (high outcome magnitudes condition; note that exemplars were presented in ascending or descending order [counterbalanced]).**

Before making the six decisions, you will be allowed to view the decision that an (anonymous) participant in a previous decision-task identical to this one made, if you would like to do so. You can choose yourself whether you get to see the choices of a participant who won anything from the least to the highest possible outcome. Thus, if you like, you will be able to view how many safe and/or risky choices this previous participant made to obtain his/her outcome.

If you **would** like to see the choices of a previous (anonymous) participant before you make your own choices then select from the list below whose choices you want to see. If you **would not** like to see the choices of a previous (anonymous) participant then select the corresponding box on the bottom of this screen.

|  |  |  |  |
| --- | --- | --- | --- |
| [ ] £00 | [ ] £42 | [ ] £64 | [ ] £84 |
| [ ] £11 | [ ] £44 | [ ] £66 | [ ] £91 |
| [ ] £20 | [ ] £51 | [ ] £71 | [ ] £93 |
| [ ] £22 | [ ] £53 | [ ] £73 | [ ] £100 |
| [ ] £31 | [ ] £55 | [ ] £75 | [ ] £102 |
| [ ] £33 | [ ] £60 | [ ] £80 | [ ] £111 |
| [ ] £40 | [ ] £62 | [ ] £82 | [ ] £120 |

[ ] I do not want to see the choices made by a previous participant

**Page 3 (only when exemplar selected; exact details depend on selected exemplar).**

The participant from the previous decision-task that you selected made the following choices:

**Safe Option:** 1 time

**Risky Option:** 5 times

This participant accumulated $11 in total.

**Page 4 (low outcome magnitudes condition).**

Now, please decide how many times of your total 6 choices you want to select the Safe Option or the Risky Option.

Remember: When the data from all participants of this study have been collected, we will randomly draw 1 participant of every 50 who will receive the earned money as a bonus.

Choice 1: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 2: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 3: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 4: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 5: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

Choice 6: [ ] Safe Option ($1.10 for sure) [ ] Risky Option ($2 with a 50% chance)

**Page 4 (high outcome magnitudes condition).**

Now, please decide how many times of your total 6 choices you want to select the Safe Option or the Risky Option.

Remember: When the data from all participants of this study have been collected, we will randomly draw 1 participant of every 50 who will receive the earned money as a bonus.

Choice 1: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

Choice 2: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

Choice 3: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

Choice 4: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

Choice 5: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

Choice 6: [ ] Safe Option ($11 for sure) [ ] Risky Option ($20 with a 50% chance)

**Page 5.**

What is your age? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your gender? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please indicate your country of citizenship: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is your Prolific ID? We will use this to reward you your winnings if you are selected in the draw. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| *Table S1:* Most-Successful Exemplar Chance Across Different Decision Configurations  |
|  |  | Chance Associated with $2 Risky Decision Outcome |
| *p* |  | 25%  |  | 50% |  | 75% |
| 1/6 |  |  |  |  |  |  |
| 3/6 |  |  |  |  |  |  |
| 5/6 |  |  |  |  |  |  |
| *Note:* *p* indicates average risky decision. Horizontal axes indicate risky decisions (0 through 6). Dark shaded areas represent the likelihood of average or below-average risk-taking of the most-successful exemplar(s). Light shaded areas represent the likelihood of above-average risk-taking of the most-successful exemplar(s). |

**Computation of Exemplar Chances (Figure 1)**

For the following computations, we used the repeated decision-making task in Table 1, in which people choose between a risky (50% chance of gaining $2, 50% chance of gaining $0) versus safe (100% chance of gaining $1.10) option, for six times.

The probability *P*R for an individual to make 0 through 6 risky choices equals, , where *p* denotes the average probability that any individual at any time chooses the risky over safe option, *R* refers to the number of risky choices, and reflects the number of combinations in which these risky decisions can be made. Adopting *p* = 0.315 gives:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *R* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | *Total* |
| *PR* | 0.103 | 0.285 | 0.328 | 0.201 | 0.069 | 0.013 | 0.001 | 1.00 |

The decision-task can yield the following different outcomes, depending on the amount of risky choices, *R*, and how many of these risky choices yield a $2 payoff, indicated by *W*:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *R* | *W*=0 | *W*=1 | *W*=2 | *W*=3 | *W*=4 | *W*=5 | *W*=6 |
| 0 | $6.60 |  |  |  |  |  |  |
| 1 | $5.50 | $7.50 |  |  |  |  |  |
| 2 | $4.40 | $6.40 | $8.40 |  |  |  |  |
| 3 | $3.30 | $5.30 | $7.30 | $9.30 |  |  |  |
| 4 | $2.20 | $4.20 | $6.20 | $8.20 | $10.20 |  |  |
| 5 | $1.10 | $3.10 | $5.10 | $7.10 | $9.10 | $11.10 |  |
| 6 | $0.00 | $2.00 | $4.00 | $6.00 | $8.00 | $10.00 | $12.00 |

The probability, , associated with one of these potential outcomes corresponds to , where indicates the number of combinations in which the amount of *W* successful outcomes can be obtained with *R* risky decisions. These probabilities,, are:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *R* | W=0 | W=1 | W=2 | W=3 | W=4 | W=5 | W=6 |
| 0 | 0.103 |  |  |  |  |  |  |
| 1 | 0.143 | 0.143 |  |  |  |  |  |
| 2 | 0.082 | 0.164 | 0.082 |  |  |  |  |
| 3 | 0.025 | 0.075 | 0.075 | 0.025 |  |  |  |
| 4 | 0.004 | 0.017 | 0.026 | 0.017 | 0.004 |  |  |
| 5 | 0.000 | 0.002 | 0.004 | 0.004 | 0.002 | 0.000 |  |
| 6 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

For example, the chance for any individual to obtain an outcome of $6.40 (2 risky choices, one of them yielding $2, and 4 safe choices, each yielding $1.10) is

Based on these probabilities, a chance can be allocated to each of the risk-taking amounts (0 through 6) that it will produce a most-successful individual within a sample of size, *N*. To illustrate, assume that we wish to establish the chance that the most-successful individual in a sample has made 2 risky choices. Depending on the outcomes of these risky choices, the chance for an individual to make $4.40 equals = 0.082, the chance for an individual to earn $6.40 equals = 0.164, and the chance for an individual to get $6.40 is = 0.082. Further, for an individual to have the highest outcomes with an outcome of, for example, $8.40 ( = 0.082), all other individuals need to have achieve a lower outcome (or equal in case of ties). This chance is
where, *T*, indicates the amount of individuals within the sample achieving the outcome in question and, *Q*, represents the sum of all probabilities associated with outcomes *lower* than the specific outcome in question (e.g., lower than $8,40). However, $8.40 is only one of the three possible outcomes for someone who made 2 risky choices; an individual could also obtain $4.40 or $6.40 instead. Hence, to estimate the probability that within a sample the most-successful individual(s) will have made 2 risky choices, we need to add the specific chances associated with each of these two other outcome alternatives (i.e. working out the above formula three times, for $4.40, $6.40, and $8.40, and summing their results). Working this out for *R* = 2, adopting *p* = 0.315, and *N* = 100 we get a chance of approximately 0.039.

Stated differently: Within a sample of 100 individuals where the average risk-taking probability is 0.315, the chance that the most-successful individual(s) will have made 2 risky choices is approximately 3.9%. Likewise, chances can be allocated to each of the other amounts of risk-taking, resulting in the estimates in Figure 1 (black line). The chances associated with *unique* most-successful individuals to emerge having taken 0 through 6 risky choices can be computed by doing these calculations for only *T* = 1 (Figure 1, grey line).