GRAY MATTER

Force Overtime? Or Go for the Win?

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On Jan. 16, 2016, with time expiring in the fourth quarter of a playoff game between the Green Bay Packers and the Arizona Cardinals, the Packers quarterback Aaron Rodgers completed an improbable Hail Mary touchdown pass to bring the Packers within 1 point of the Cardinals.

The Packers then had a choice to make. They could kick an extra point, which would send the game into overtime. Or they could go for a 2point conversion, which though more difficult would win the game.

Ultimately, the Packers chose to tie the game with an extra point. Then their fans watched in dismay as the Cardinals promptly scored a touchdown in overtime and won the game.

The Packers had fallen prey to a common fallacy: When facing decisions like this, people are often myopic, focusing too much on the possibility of an immediate loss. They avoid the risk of instant defeat, even when taking that risk offers the best path to victory.

Most other National Football League teams behave this way, too. In research to be published in the forthcoming issue of The Journal of Personality and Social Psychology, we examined every instance over a recent 10-year period in which N.F.L. teams faced a choice in the final minutes between kicking an extra point to tie the game or going for a 2-point conversion to win. The teams overwhelmingly chose to avoid the risk of immediate defeat: Of the 47 times teams faced this situation, they opted to kick the extra point 42 times (89 percent).

This bias can be costly. Teams that chose to avoid the 2-point conversion won the game only 40 percent of the time, which is well below the average rate of successful 2-point conversions (about 50 percent). Surely some of those teams should have known they were underdogs if the game went into overtime, and mistakenly avoided a risk they should have taken.

This error is not limited to the N.F.L. We also looked at all instances in the past five years in which teams in the National Basketball Association trailed by 2 points with less than 24 seconds to play. In this situation, a team can attempt a 2-point shot that would send the game to overtime or try a (more difficult) 3-point shot that would win the game immediately.

Again, a clear bias emerged: Of the 772 instances in which teams faced this situation, they avoided the 3-point shot 71.1 percent of the time.

This bias appears to be costly in the N.B.A. as well. The teams that attempted the 3-point shot won the game more often (17.3 percent) than those that attempted the 2-point shot (14.5 percent).

Basketball fans in a laboratory environment make this same mistake. In one study, we asked participants to imagine that they were the coach of an N.B.A. team that was down by 2 points in the final seconds. Just as N.B.A. teams did, our participants avoided the superior strategy, opting for the 2-point shot 81 percent of the time.

Why do people make this error? Part of the explanation lies in our tendency to treat problems in isolation rather than as part of a larger whole. Just as investors often mistakenly evaluate stocks individually rather than as part of a portfolio, coaches and fans often evaluate decisions in terms of their immediate impact and give less consideration to how those decisions fit in the larger context of the game.

In our laboratory study, we found that whether participants opted for the 2-point or 3-point shot was unrelated to their beliefs about how the team would perform in overtime. They made their decision by focusing almost entirely on the prospect of losing immediately, neglecting how the future was likely to play out.

But there is more to the story than myopia. People also seem to be unnecessarily wary of risks that they feel they are choosing to take (as opposed to risks they feel they are forced to take).

In a study that highlights this point, we asked football fans to imagine that a team had scored a touchdown in the final seconds of a game. Then we told half the fans that the team trailed by 1 point and the other half that the team trailed by 2 points. We then told all the fans that the team was going to attempt a 2-point conversion.

Those who were told the team was down by 1 point (and thus had the viable option of kicking the extra point to force overtime) thought the 2-point conversion was more likely to fail than did those whose team had to attempt a 2-point conversion just to force a tie. That is, the same decision was thought to be riskier when it was seen as optional than when it was seen as unavoidable.

"Live to fight another day" is often a good rule of thumb, but it is not always the best strategy to pursue. Good judgment, in sports and elsewhere, sometimes requires the presence of mind to take the risk of an immediate setback to achieve lasting success.