

# PAYOFF VERSUS RISK AND CREDIBLE THREAT

Hypernormal Form N-Person Games

The following is a real game I generated in my head May 19<sup>th</sup> 2017 at Milwaukee VA-3C Psych Ward in response to a situation where I had created a large model to help my doctors diagnose me after being up for over 40 hours and denied access to my medication upon admission at 3am. Essentially they wanted me to take it down to make space for breakfast, even though I know for a fact there was no real space issue, and I refused and when they wouldn't take no for an answer I said something along the lines, to the three staff, "I am trained well enough to kill you all with my bare hands, I will defend this table with my life, call the police so that they can take a picture I can show my doctors". The Charge Nurse came in about 10 minutes later, alone, and started knocking over the pieces on the table and to maintain my ability to issue Credible Threats I pushed her to the ground and unfortunately she shattered her radii. I am now charged with Felony Assault I, which I knew was a possibility if an attack occurred and I hurt someone and in fact requested the VA Police to charge me so that I could make my case in court that she was in the wrong.

For the official version of events feel free to read the police report: <http://wwidew.net/PoliceReports.pdf>

$$STRATEGY(Player) = f^{Player}(Payoff, Risk)$$

The payoff/risk matrix represents both my original perceptions of their payoff/risk profile and what the police reports and what actually occurred infers.

<b>Payoff{me, player}/Risk{me, player}</b>	<i>Me</i>	<i>Charge Nurse</i>	<i>{Staff}</i>
<i>Leave Table Alone</i>	2,0	-5, -10	-5, -10
<i>Call Police</i>	1,0	{0, -10}, {0, -5}	-1,0
<i>Attack Table</i>	-2, -10	{-10,2}, {-10, -2}	-10, -10
<i>PRN</i>	-5, -2	7, -9	7, -9

So I had a very slight difference of preference between leaving the table up or having photos taken by the police, neither of which I perceived as any risk. Attacking the table versus a PRN (Haldol and Ativan most likely) was actually my third preferred payoff, however the risk of the Attack was certainly much higher, as the fact I'm facing 1-3 years behind bars would confirm. However my hospitalization after this incident was less than a week and I was treated like a \*\*\*\* General by the VA Police after that, when I was being transferred to another facility a week later I was not handcuffed and given a sit down with Chief of Police who wears gold eagles on his collar which means he's the equivalent of somewhere between a Colonel and a Brigadier General in the VA "civilian" hierarchy.

The Charge/Nurse staff I had no expectations of leaving the table alone, I agree that was not in the deck. What is shocking to me is it turns out that the Charge Nurse must have had a high perceived cost of calling the police, the staff did not as the Police Reports show that one of them was on the phone with them as she was attacking the table.

Even more surprising was she turned out to be a Nurse Ratchet type and had a positive payoff expectation for attacking the table and accepting risk, albeit what must have been less risk than I had thought that I had demonstrated since she must have believed that since because of my previous stay several days earlier and two weeks in length was incident free my threat was relatively idle.

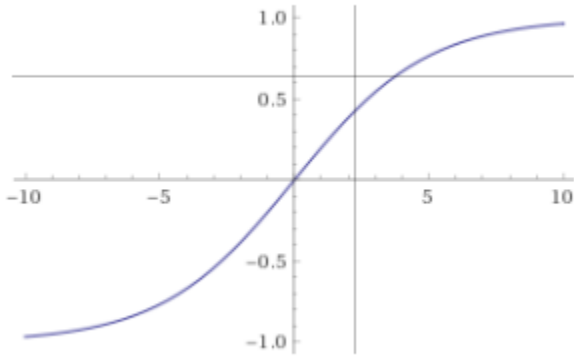
The apparent profile for not issuing a prn with a four man attack, even though I inferred I could beat that, even though medically they must have seen higher payoff than any of the other options, must have thought risking all four staff/charge was greater than I anticipated as I've never seen anyone in a psych ward defeat a multiple person take down without getting subdued by the PRN.

## $[-10,10]$ Sigmoid Adjustment Function

$$= 2 \left( \frac{1.5^x}{1.5^x + 1} - \frac{1}{2} \right) = \alpha(x)$$

I created an adjustment function that will strongly prefer and reject, respectively, high and low payoffs and risks while smoothly adjusts for intermediary values with the assumptions that all values of  $x$  will fall between -10 and 10.

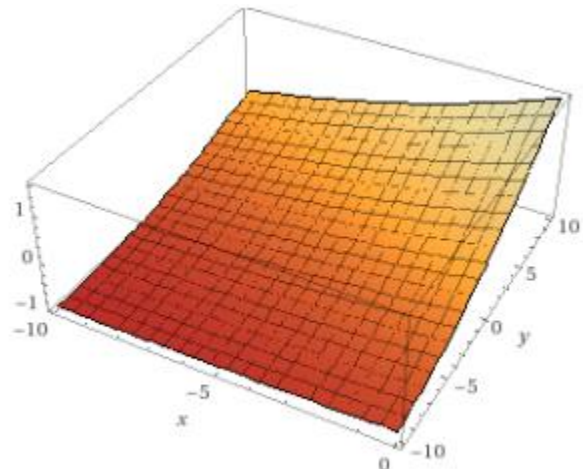
Plot:



## Combined Payoff versus Risk Calculation =

$$2 \left( \frac{1.2^{risk} 1.25^{payoff}}{1.1^{risk} 1.2^{payoff} + 1} - \frac{1}{2} \right)$$

The Combined Payoff versus Risk Calculation uses a multivariate sigmoid function to create the following profile, which I believe is representative of the common risk/reward mind set and since we are normalizing the risk and payoff functions when creating the matrix the need for a custom model is greatly diminished. This is a possible generalized formula for utility as the author of the game defines the risk vs payoff in a model, and then history tells how close they are and inferred in the concept of Risk is the REACTION of the other actor(s) for a given move. It is bounded in number theory from -10 to 10 payoffs and risks generating a 0-2 combined expectation, with limited bias to risk adversity, and while there may be instances where the are actors that refuse to even consider -10 risk for +10 payoff it would be a very boring game if the fact that there is a small number associated with it means that most of the time there will be other options that will be a more preferable strategy to the player. The coefficients were carefully selected to ensure  $[-1,1]$  and the proper 3D slope in Risk:  $[-10,0]$  and Payoff:  $[-10,10]$ . This thoroughly demonstrates that multidimensional sets can be ranked in a natural manor which was a major skepticism to my approach to defining Utility as  $\{\text{Real, Imaginary}\}$  in "On Exchange Medium and Speculation."



<b>PayoffVsRisk{me, player}</b>	<i>Me</i>	<i>Charge Nurse</i>	<i>{Staff}</i>
<i>Leave Table Alone</i>	0.280738	-0.908355	-0.89544
<i>Call Police</i>	0.136364	{0, -0.921563}	-0.127273
<i>Attack Table</i>	-0.836932	{-0.96735, -0.00910639}	-0.96735
<i>PRN</i>	-0.658358	-0.266443	-0.266443

[https://www.wolframalpha.com/input/?i=2\(\(\(1.2%5Ex\)\(1.25%5Ey\)\)%2F\(\(1.1%5Ex\)\(1.2%5Ey\)%2B1\)-1%2F2\),x%3D-10,y%3D-10](https://www.wolframalpha.com/input/?i=2(((1.2%5Ex)(1.25%5Ey))%2F((1.1%5Ex)(1.2%5Ey)%2B1)-1%2F2),x%3D-10,y%3D-10)

I did not consider there would be some perceived embarrassment from calling the police, I was under the impression when a credible threat to staff was made and the police were demanded to intervene they are policy, if not legally, obligated to call the police without further disturbing the patient. The nurse however did not seem to understand, or care about that, as from my payoff/risk estimations she was almost indifferent to knocking pieces off the table and forcing me to engage in hostile aggression towards her to maintain, and indeed enhance, my ability to issue credible threats in the future. Indeed lets say she was just indifferent to attacking the table and didn't actually find pleasure in it the payoff/risk for attacking the table would be: -0.239568, meaning she would have chosen the PRN path which is more medically accepted and less dangerous to staff since they would be subduing me as a team.

The staff acted as I predicated and called the police. Bottom line is the Charge Nurse had an irrational Payoff versus Risk profile I could not predict, and because of that she chose to act irresponsibly and my actions were forced; her injury, while unfortunate, was entirely of her own making and should have been completely foreseeable. In fact it has been suggested to me, given her age (born 1954 I believe), that she was looking for early retirement and an insurance payout.