How to Handle Scientific Rejection

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Rejection. If you asked people on the street, what they think of when they hear this word most people would relate to unsuccessful romantic attempts, perhaps being denied a car or mortgage loan, or even having your layup attempt swatted into the third row at your YMCA pickup basketball game. But for research scientists this word conjures up different connotations – usually conveying unsuccessful attempts at applying for jobs, funding or publishing manuscripts in peer-reviewed journals. For most of us, ~80% of all such attempts are unsuccessful and thus come back with an email containing the dreaded "R" word. Given that academic PIs spend the majority of their time writing grants and papers, one must find ways to deal with rejection if they are to overcome the obstacles and pursue a successful research career.

Professor Margaret Goodell, Baylor College of Medicine.
"Rejection is always painful and continues to happen in perpetuity, so we just have to get used to it. I allow myself a day or so to wallow in self-pity, but then turn on my determination. Although it is tempting to be irate at reviewers or editors for not appreciating our clearly extraordinary contribution, I usually try to determine what I can learn from the experience. Did I need better data? Did I not explain the significance well? Is there another angle to present the data to be more compelling? Is it simply the wrong audience? Of course sometimes things will just seem unfair despite our best efforts, so we have to remember that all papers CAN get published, even if not where we originally hoped. And if it is truly a good

paper, it will find its audience and can still become highly cited - which is ultimately more important than the journal in which it is published. I am especially pleased when the paper as eventually published accumulates more citations than typical for the journal that rejected it! The journal lost the opportunity to have my impactful paper!”

Professor Andrew Elefanty, Murdoch Children’s Research Institute
“Dealing with emails that commence with platitudes like: 'The quality of applications received was very high….', and end with 'We look forward to receiving future applications from you…' have become an integral part of the swings and round-a-bouts of survival in science. It is difficult not to let these rejection letters weigh too heavily on your mind and destroy your love of science. There are different ways of dealing with rejection, but there are several points that have helped me to survive. This involves different responses to different circumstances. To give the example of Fellowship applications - Generally, there is no correspondence entered into and the referee's decision is final, so if you have not been successful there is little you can do about it at the time. After licking your wounds and bandaging your injured pride it is worth looking at comments from the assessors which might detail the perceived weaknesses in your application. Were there aspects of your track record that you need to improve? Was your publication record just not strong enough? Did you fail to promote your achievements forcefully enough? Depending on the responses to these questions, you should plan to reapply in the next round or you should target a difference source of potential funding that might be a better match for your training and stage of career.”

"A person who never made a mistake never tried anything new." --Albert Einstein

"Only those who dare to fail greatly can ever achieve greatly." --Robert F. Kennedy

Grant A. Challen, PhD
Assistant Professor
Washington University School of Medicine
www.challenlab.com
@challenlab

From my own perspective (faculty for 6.5 years), it has been something that I have to consciously make an effort not to take personally. You pour in so much of your blood, sweat and tears into every grant and paper that at first it is difficult grapple with not taking these rejections to heart. There are a few emotional stages I used to go through (and still do sometimes) when receiving a rejection letter;

1. Rage – how can these reviewers not understand the importance of this study!
2. Depression/Doubt – this was the best I can do. How will I ever make it in this field?
3. Anxiety – I really needed this on my CV for promotion. Will I make it to tenure now?
4. Acceptance – OK, maybe the reviewers have some valid points.
5. Motivation/Determination – I will revise this and make it better than ever! I will overcome this setback!

Learning how to deal with rejection is a perspective that is learned early in science. From failed PCRs as an undergraduate student, rejection from your top grad school choices, and no email response from the PI of your post-doc dream lab. So how do we deal with these setbacks, brush ourselves off and move forward? Apart from throwing back shots of Jack Daniels while you listen to Tupac's "Hit 'em up", I have learned a few mechanisms to cope with scientific rejection. The first thing you have to accept is that it is (almost certainly) not personal. The reviewers are just doing their job and trying to uphold the merits of scientific rigor and significance. Once you talk yourself off the ledge after getting the initial rejection notice, when you carefully read through the reviewer comments they are almost always addressing important potential flaws in your work. I don't think I have ever had an instance where I address reviewer comments and it doesn't improve the paper/grant. The next thing to develop is some level of self-awareness. You have to realize that not every paper you submit is of Cell / Nature / Science quality. There is a lot to be said for maintaining a sustained level of consistent production regardless of the journals. And then when those big home runs really come through, they can be all that much sweeter. Finally the last point I would make is that this is not supposed to be easy. There is a reason funding rates and journal acceptance rates are so low. Part of it is to ensure that only the best and most

meritorious work is funded and published. Maybe your idea is not as great as you think it is and that taxpayer money might be better spent directed to another idea.

For additional insights, we sought out some advice from leaders in the field …..

So remember, you are not alone in dealing with scientific rejection. For some additional perspective, I highly recommend the Twitter hashtag #GrantReviewGreatestHits. Overall, I think it is important to recognize that if you want to succeed you must aim high. In doing so you may often fail, but you will also grow and improve from the experience. Success from aiming low may provide an easier path, but without the bonus of growth. In closing, I would like to offer some additional resolve from two historic figures …