

Skylab and nasa decision making



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BUSTER**

Imagine that you are soaring through space, marveling in its' beauty and glory. You realize man's insignificance as you peer out the tiny porthole looking at the milky radiance as you cruise silently through the "phosphorescent sea".

You are pulled from your gaze by the sound of your onboard printer working away, and then reality hits you. It is your daily 6 foot long list of tasks that NASA has sent you after they finished their daily gripe session about being overworked, understaffed, and underpaid. NASA sure knew how to treat the three Skylab crews. Team 1, led by Conrad, seemed to really exhibit E-to-P and P-to-O expectancies.

Conrad sold the crew and NASA on the team giving up their scheduled day off to catch up on experiments and assigned tasks. They believed their effort would increase performance and this increased performance level would result in the desired outcome (which is?). The crew's ability to fix the solar panels and install the thermal parasol made them " instant heroes" and had a very high outcome valence – the crew was very proud of this successful outcome. The second team's makeup served to really help productivity. Bean and Lousma were very interested in quantitative and comparative data; they, especially Bean, really wanted to know how they were doing in comparison to the first team.

This perception that their increased efforts would yield better performance and that this performance would in turn yield better outcomes are concrete examples of their E-to-P and P-to-O expectancies, respectively. That's not to say that Garriot's perceptions and values didn't follow the same motivational

theory as he was just as interested in real and measurable data as his crewmates. Even though all three crewmembers had similar technical backgrounds, Garriot was able to look at things differently and really got the other guys excited to participate in what normally would be mundane tasks for them. He was able to naturally increase their outcome valences, just through his enthusiasm.

Garriot also had high levels of E-to-P and P-to-O and these levels were greatly enhanced by his unbridled enthusiasm at the possibilities for new discoveries. This enthusiasm was extremely contagious and helped to lift the whole crew to higher performance levels. This was the model crew for NASA as they were eager to please and work, so much so that NASA was actually having a hard time keeping the schedule full for them! Unfortunately, NASA's Neal Hutchinson felt that a "new standard" for future crews was now in place. Instead of looking at how both teams were successful through personal makeup, team attributes and abilities, and the impact of expectancy theory, NASA assumed all teams would and should function at this new level and be highly motivated to direct their work efforts to meet desired outcomes. It didn't take long for the failings of this view to arise.

We just had to wait for the third and final Skylab crew to be in place. Even before Skylab 3 was launched, NASA had already sowed the seeds for possible dissension by not clearly defining the length of the mission. NASA was also aware of several personality issues, that left unaddressed had the potential to cause problems down the line. These issues were that the team had never been in space before, no one on the crew shared any personal ties with either of the two previous crews, and that Skylab 3's science pilot,

Gibson, was known to be one of the most “contrariest and bitchingest” astronauts ever to leave Cape Kennedy. NASA continued to feed countervailing outcomes when they publicly reprimanded the crew for not reporting the vomiting of Pogue.

This only helped to feed the “us against them” mentality that the third crew had developed. Throughout their time in space, there were regular occurrences of rebellion. Whether it was caused by a cut in allocated exercise time, scheduling experiments during meal time, poor toilet facilities, or one of the other numerous issues – the third crew believed that no matter what they did in terms of effort or performance, it would have little or no effect on the outcome. I think it’s safe to say their E-to-P and P-to-O expectations were very low! It’s also safe to say that the team anticipated dissatisfaction with the possible outcomes. Simply said, they believed that whatever they did would not be good enough and that NASA’s task had very little, if any, value. Recommendations For extended stays in space, team makeup should be a mix of experienced and newbies, with both metric driven members as well as those with the ability to see beyond the quantitative and really enjoy or “get into” the experience (ala Garriot).

If this is unable to be done due to insufficient down time between flights, then have previous crews from similar missions develop the schedule in concert with NASA and the next flight team. This way all are represented equally and buy in can be had all around. This will help to eliminate the secrecy and unspoken agendas that seemed to plague the Skylab efforts. Also, previous teams should be at mission control during the event to observe and give feedback.

Embed past occupants on teams that are designing future space stations/vehicles. I found out that this actually happened. Thirty years later, Carr and Pogue, members of the Skylab 3 crew, helped NASA to design today's International Space Station (ISS). They claimed a special area as their own: how not to design a space station.