**Discussion**

**Relate Results to Past Research**

Given the pre-existing literature, as well as our results from study one, we expected a strong effect confirming our hypothesis. However, we did not find a statistically significant main effect of our intervention in our primary study from the perspective of a 2x2 multi-level model.

Keeping in track with previous research, we did find that overall there was a reasonable level of support for UHC as the majority (69% of our subjects) of our participants found the plan acceptable. We also replicated the generally positive level of support found by Huebner et al. (2006), but in a non-medical student population. We replicated the findings of Danis, Biddle & Goold that the majority of individuals exposed to a health benefit package would be willing to use the health package for themselves.

Furthermore, our results were different from Weiger, Armstrong & Shaffer, 2019. In study two, we were interested in seeing if our results from study one replicated. Specifically, we wanted further confirmation on whether or not an experiential intervention would be more effective than an informational intervention. Compared to study one, while we did not have two interventions, our control condition was a pseudo ‘information only intervention,’ as it was presenting commonly accepted facts about UHC from well trusted sources. Given that support for UHC was higher in our information only based control condition than it was in our experiential intervention, we replicated our earlier results indicating that to be the case from study one.

Interestingly, there was significant evidence supporting our secondary hypothesis. When directly measuring our proposed mediating variables, we see that both perceived equality as well as understanding of UHC strongly predicted support for UHC. Furthermore, our mediating variables indicated that while our control condition increased both perceived equality as well as increased understanding, our intervention condition only increased understanding. Indeed, after conducting a mediational analysis, we could plausibly conclude that since there was an effect of condition on perceived equity, and since we did see a difference in support for UHC across conditions, that this mediational relationship was the mechanism by which our difference in support manifested. Lastly, while we did see an increase in variance in perceptions of equality between our control and intervention, the difference was not statistically significant, and the group mean of both conditions was extremely similar.

The effect of numeracy on support for UHC was quite unexpected. Firstly, we had assumed that both objective and subjective numeracy would have similar effects, if any effect was extant at all. Secondly, we had assumed that the effect of numeracy would be the same across both categories. Neither of these two assumptions was correct. We saw very clearly in table 5 that there was a significant effect of objective, not subjective numeracy. Also, the impact of objective numeracy was significantly greater in our intervention than in our control. Considering the impact of objective and subjective numeracy, it is fairly obvious that our intervention skill required some larger amount of comfort with numbers, given that the core of the exercise was trading off various health benefits using a limited pool of resources. However, while study 1 initially required manual calculation with physical calculators, the web-exercise that was designed for study 2 was constructed such as to minimize required calculations. Perhaps one reasonable supposition is that without sufficiently great objective numeracy, it was difficult for an exercise primarily centered on numbers to be effective. An alternative supposition would be that highly numerate individuals were significantly more engaged with an exercise that let them use their numeracy, leading to more attention paid, resulting in a larger effect of our intervention.

With regards to our qualitative data, we saw a significant difference in the proportion of types of content in both intervention and control condition. Unsurprisingly, no individuals in our control condition had any difficulty with the very simple exercise (reading multiple fliers). In comparison, after reading the responses, it seemed very clear that the main source of difficulty for individuals in the intervention condition was ‘agonizing’ over the optimal distribution of resources so as to have the most preferred health plan. Conceptually, this seems more like a feature than a bug. Confronting individuals with a realistic and difficult choice similar to those for health-care policy officials is exactly the purpose of the exercise. Additionally, over double the number of individuals in our intervention condition expressed active support and appreciation for the purpose of the exercise, that it improved their understanding of the problem and that it was a fun and enjoyable exercise.

However, one consistent category of responses across both conditions were subjects that believed that the exercise was either politically motivated, or had a strong intentional bias in it’s construction. This lead to some subjects expressing suspicion or lack of belief in the presented information. Perhaps a reasonable extension would be to present HBP for a UHC in comparison to a set of standard private insurance plans. Additionally, it would be interesting to see how much this correlates with or against political affiliation, which was not measured in the primary study.

**Limitations**

Study one and two both recruited participants from a large midwestern university located in a medium sized midwestern city. This is not necessarily reflective of the majority of the insurance buying population, or those individuals able to effect change on UHC. The design of study two required a reasonable amount of familiarity with internet and online survey platform technology, which may make it difficult to adapt to older or less tech-savvy populations. Some subjects indicated in the free-response section that the information presented was biased towards support for UHC and did not paint the whole picture of arguments supporting our current private care system. Therefore, we were unable to derive potential insights comparing to see if positive messaging on private health care would reduce support for UHC.

**Future Directions**

There are a great deal of interesting and clearly worthwhile directions to use moving forward. The lowest-hanging fruit would be to execute a replication of the study, providing further evidence of our proposed mediating relationship and moderating effects, on a group that more closely mimics the insurance buying public. Perhaps this could be done through Amazon’s mechanical turk, or through another recruitment avenue. This would provide additional external validity to the study, as the primary decision-makers around health insurance are not university students. Something that would also be very simple for any replications or pseudo-replications of this research moving forward, would be to develop a structured plan for qualitative analysis. A potential avenue would be to use various forms of semantic text analysis, LIWC specifically.

Additionally, there are several modifications of the experimental materials that would be of interest to examine. Primary in my thoughts is to determine if our current allotment of resources would have greater or lesser support as compared to our current allotment of 49 units out of 79 potential units. If there is no significant difference in either greater or lesser amounts, that would perhaps provide evidence indicating that the structure of the UHC as presented through a HBP is has greater salience in determining approval versus simply the objective healthcare options available.

There are other additional measures that would be worthwhile to measure as well, to see if there is any moderating effects. Our naive qualitative analysis indicated that many participants were skeptical of a potential political agenda from the researchers, or were otherwise concerned about the ‘neutrality’ or ‘objectivity’ of our material. This would be something we could examine by measuring political orientation and polarization. Related to our previous point, we could also design experimental material that explicitly promotes ‘standard’ private health insurance as it exists in the USA, or compare to negative messaging on ‘standard’ private health care without having positive information about UHC. Lastly, if we could find some way of measuring actual equity of a given plan, and to see if different distributions of elements in a plan (actual equity) has similar effects to perceived equity of UHC.

Lastly, I believe that the main thing of value to explore next would be to determine to see if there is some execution of the HBP that would be similarly effective to our current one, with individuals that have lower objective numeracy. Low objective numeracy is fairly common in the US population, and having an intervention that does indeed work to increase support for UHC only in individuals with high-objective numeracy is definitionally a problem with regards to the scope of the population that we wish to influence. Some considerations would be perhaps be a simplified version of the exercise, or to clearly indicate the trade-offs using a computer activity that doesn’t explicitly reference numbers or calculation.