The following report appeared in the newsletter of GoldenAge Independent and Assisted Living Facilities for Seniors.

"A novel therapy has come to our attention that promises to significantly decrease the incidence of dementia in our aging community. According to a 21-year study led by the Albert Einstein College of Medicine and funded by the National Institute on Aging, while many physical activities like playing tennis or golf, swimming, bicycling, dancing, and walking for exercise provided cardiovascular benefits for seniors, only one physical activity offered protection against dementia: that was frequent dancing.

At GoldenAge we currently provide residents with extensive recreational facilities. These include tennis courts, a fitness center, and lap pools in each senior apartment complex. However, we have no dance studio space at GoldenAge, nor any social dance programs. Clearly, social dancing can prevent or delay the onset of dementia. Since the onset of dementia inevitably signals the imminent move of residents from our independent living apartments to the more heavily staffed and therefore more costly to operate assisted living quarters, we recommend the establishment of social dance programs at all GoldenAge senior residences — as a cost-effective, positive way to ward off dementia and enable our residents to remain in their independent living quarters."

Respond by writing an essay in which you discuss the specific evidence you would need to judge the validity of the argument and explain how this evidence would weaken or strengthen the argument.

The newsletter report states that, based on a 21-year study by a medical college, frequent dancing seems to offer protection against dementia. Based on this, GoldenAge has recommended the establishment of social dance programs, so as to help seniors in being independent, and to avoid them from having to potentially pay money. However, there are multiple aspects of the argument that are weakly described, along with assumptions that could be falsified in case evidence against them arises. Judging the validity of this argument would require further evidence to prove all of the stated and unstated assumptions.

First, since the study took 21 years, one could possibly cite this to be a reason that the study's outcome is surely true. However, scientific discoveries are updated time-and-again, and the field of medicine is no stranger to contradictory studies that keep bringing up new possibilities in solving ailments and diseases. Consider the COVID-19 pandemic era: At one point, around April 2020, the Center for Disease Control (CDC) announced that masks would not be effective at shielding the spread of the pathogen, due to their minute size. This contradicted a view from earlier that masks would work. However, in the days that followed, they reversed their claims, and after thorough experimentation concluded that masks do help with slowing down the disease's spread, and that some types of masks may be more effective than others. This example shows how discoveries keep coming up; the validity of the study is hard to gauge and there is not enough information to prove that the outcomes of the study have been widely agreed upon by the members of the scientific community. There may also exist other studies that have disproved this very claim. Hence, any contradictory evidence that may arise from other studies could weaken this argument, and scientific consensus would strengthen it.

Second, the argument states that most other physical activities are known to prove beneficial in terms of cardiovascular health, and that frequent dancing helps to protect against dementia. However, is frequent dancing good for cardiovascular health? This has not been stated with surety in the argument. Although it states that dancing is good for the heart, it does not focus on 'frequent' dancing in this regard. Cardiovascular issues are known to be the leading cause of death in most developed countries, and taking into account the effect of frequent dancing is essential. Another associated assumption is that seniors will utilise the social dance programs with a high frequency. It may not be a good economic decision for GoldenAge if most seniors opt out in favour of other activities. The senior dance programs would need some kind of funding, and expecting all residents to voluntarily help may not be a good decision. Hence, if seniors greatly prefer dancing over other activities, and if the associated resources are present, then the argument is strengthened. In a case where the seniors disproportionately prefer other activities, then this argument is weakened.

Finally, this assumes that dementia is the only reason for residents to move to the more costly quarters, and that starting the dance programme would reduce these chances. If the number of people who are diagnosed with dementia is already low, then making this decision may not cause a huge real difference in such moves. If we find evidence in favour of other ailments causing a greater possibility of moving seniors to the costlier quarters, then it would imply that such a dance programme does not address the whole issue. This would only weaken the effect that the decision would have, thus weakening the argument. Meanwhile, if evidence arises that dementia is indeed a huge cause of the moves, then the argument would be strong.

Thus, more evidence must be provided to judge the validity of the argument. To address the various assumptions made, a stance can't be taken without provision of proper evidence.