Background/Aims: An inverse association of educational level with the occurrence of dementia has been repeatedly demonstrated. The mechanism of this relationship is not yet clear. Studies on populations with different educational and occupational levels but uniform living conditions throughout adult life may serve as a natural experiment and may help to rule out lifestyle and environmental factors as possible explanations. Methods: We studied the relationship of education, occupational training, and appointment to a leading position with dementia in a cross-sectional study of older female members of a religious order. Results: Out of 517 eligible sisters, 442 (85.5%) with an average of 54 years membership in the order participated in the study, among which 104 cases of dementia were identified. We found a strong association of low educational and occupational attainment with dementia. The increased risk of dementia was attributable to sisters being poorly educated (age-adjusted OR = 4.5; 95% CI: 2.0–9.9), not having received any vocational training (OR = 9.1; 95% CI: 3.9–20.9), and never having been appointed to a leading position (OR = 3.7; 95% CI: 2.0–7.0). Conclusion: In a setting which largely excludes the influence of lifestyle and environmental factors, we observed a strong association between educational variables and dementia. Our findings support the hypothesis of a reserve capacity against the consequences of brain diseases.