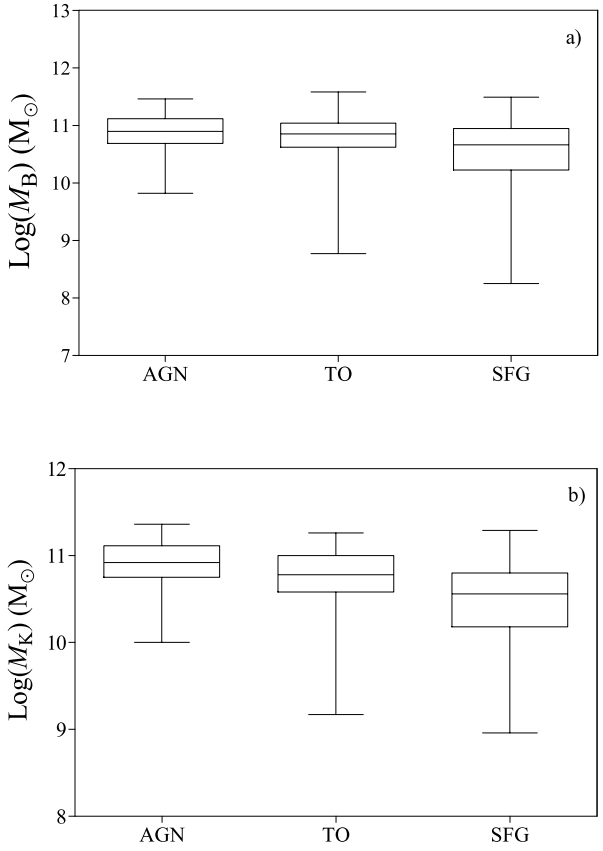

Fig. 9. Box-whisker plots for the total masses in galaxies showing different activity types; (a) M_B and (b) M_K.

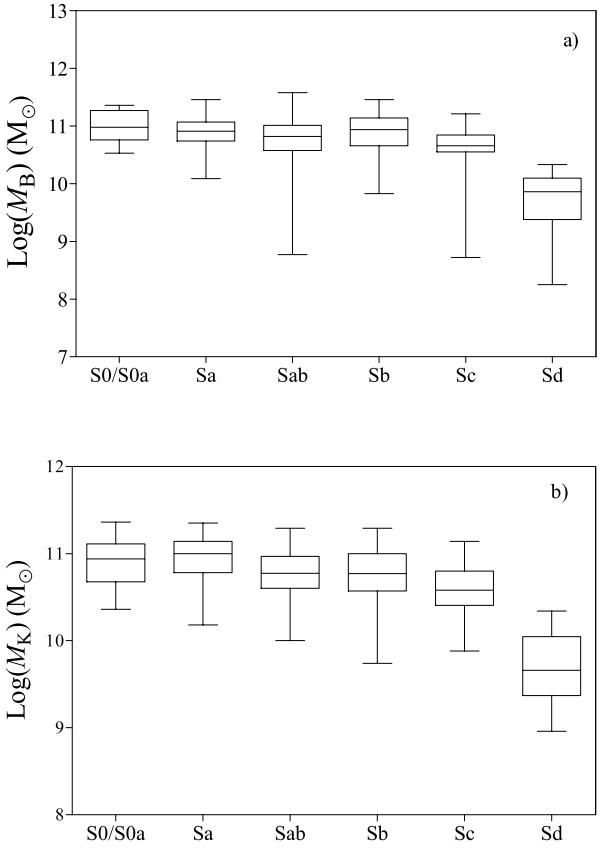

Fig. 10. Box-whisker plots for the total masses in galaxies having different morphologies; (a) M_B and (b) M_K.

from 0.5 to 3.2 Gyr, and to culminate in the AGNs with values ranging from 1.6 to 6.3 Gyr. Comparable results were encountered before by Boisson et al. (2000).

A strong connection is also found with the morphologies. In Figure 12 the morphologies were regrouped into three broad classes: Late (Sc, Sd, and Sm), Intermediate (Sa, Sab, and Sb), and Early (S0 and S0a). The SFGs show a mixture of Late and Intermediate morphologies, while the TOs have only Intermediate morphologies. The AGNs on the other hand have mostly Early morphologies.

The correlations between morphology, activity type and mean stellar ages of the stellar populations support a strong connection between the AGN activity and the formation process of the galaxies. In particular, the AGN phenomenon appears like a normal by-product of the formation process of galaxies that produces more massive bulges.

There are many structural similarities between the bulges of spiral galaxies and elliptical galaxies, suggesting similar formation mechanisms (e.g.,

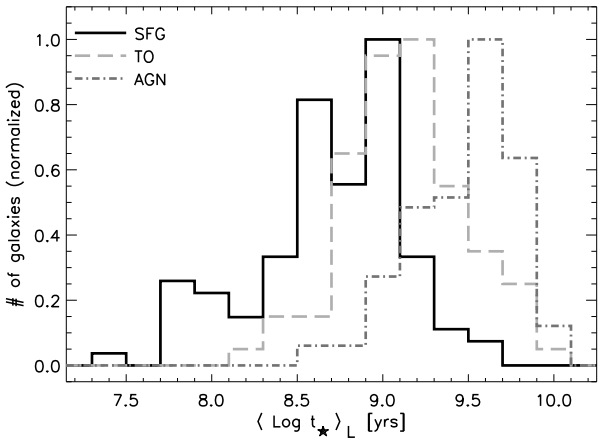

Fig. 11. Distributions of mean ages of stellar populations for galaxies with different activity types. The color figure can be viewed online.

Jablonka, Martin, & Arimoto 1996). In particular, elliptical galaxies are known to have endured higher astration rates than spiral galaxies when they formed