Only n-qubit Greenberger-Horne-Zeilinger states contain n-partite information[1] SCOTT WALCK, DAVID LYONS, Lebanon Valley College — The generalized n-qubit Greenberger-Horne-Zeilinger (GHZ) states and their local unitary equivalents are the only pure states of n qubits that are not uniquely determined (among arbitrary states, pure or mixed) by their reduced density matrices of $n - 1$ qubits. Thus, the generalized GHZ states are the only ones containing information at the n-party level.

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