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Singers' preferences for acoustical characteristics of concert halls

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It is the goal of acousticians aiding in concert hall design to create an ideal acoustical environment for experiencing music. To this end, parameters have been developed to quantify the listener's experience in a hall, and while many contribute positively toward listener satisfaction, they only tell part of the story. In reality, the experience of a listener is dependent on the quality of the performance occurring in the hall in addition to the acoustics; even great performers can only perform their best when in comfortable environments conducive to their art. Yet only one widely used parameter, Stage Support, considers a performer's acoustical needs, and this metric only applies to instrumentalists playing in ensemble. This study examines the unexplored case of a solo singer in a concert hall, augmenting the little existing research on this subject as a first step toward a new parameter. Subjective responses from a survey given to a number of experienced singers and the preferences of singers for acoustical aspects of various virtual concert halls, auralized real-time as the singers sang, are examined. The limitations in using typical acoustical measurement techniques to capture data for voice self-perception are discussed.