Table 28a Design Principles for Voice Perception (Dennler et al., 2025)

Design Principles for Voice Perception (Dennler et al., 2025)		
	Item	
1.	DP1: Pitch Modulates Gender Perception The perceived gender of the voice should change as the fundamental frequency of the voice changes. While several studies have linked voice pitch and perceived gender [106, 107], there are other factors that contribute to the assignment of gender in voices [108]. To evaluate the interaction of physical appearance and gender, the voice should be able to alter its perceived gender.	[106] Pernet CR, Belin P (2012) The role of pitch and timbre in voice gender categorization. Front Psychol 3:23 107] Puts DA, Gaulin SJ, Verdolini K (2006) Dominance and the evolution of sexual dimorphism in human voice pitch. Evol Hum Behav [108] 27(4):283–296 Cartei V, Reby D (2013) Effect of formant frequency spacing on perceived gender in pre-pubertal children's voices. PLoS ONE 8(12):e81022
2.	DP2: Clarity and Realism are Consistent The voice should be similarly understandable and realistic for all perceived genders and pitch modulations. Clarity and Realism have been linked to user acceptance in digital assistants [109], and should be held constant across different perceived genders.	[109]Cambre J, Colnago J, Maddock J, Tsai J, Kaye J (2020) "Choice of voices: A large-scale evaluation of text-to-speech voice quality for long-form content," in Proceedings of

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	Item	
		the 2020 CHI Conference on Human Factors in Computing Systems, pp. 1–13
3.	DP3: Identity Follows Function The voice should be perceived as professional across different pitches, as we intend to use this voice in professional contexts in the integrative video study. While perceived gender is one salient feature of a voice, other important aspects of identity are also expressed through voice, such as age, personality, and geographic region [91].	[91].Cambre J, Kulkarni C (2019) “One voice fits all? social impli- cations and research challenges of designing voices for smart devices,” Proceedings of the ACM on human-computer interac- tion, vol. 3, no. CSCW, pp. 1–19