Supplementary Materials

Supplementary Tables S1–S14

Supplementary material for "Factors associated with intended professional use of artificial intelligence among speech-language therapy students and practicing clinicians: a cross-sectional survey in Türkiye."

Tables S1 and S2 report post hoc sensitivity analyses of the primary regression model using (a) a two-item self-rated knowledge score and (b) four additional evaluative dimensions. Coefficient-level inference in Tables S1 and S2 uses HC3 heteroskedasticity-consistent standard errors, whereas the primary model in Table 3 of the main text uses conventional ordinary least squares (OLS) standard errors with percentile bootstrap confidence intervals; *p* values are therefore not directly comparable across the primary and supplementary models. Table S3 summarizes the contextual adaptations to the source questionnaire without reproducing copyrighted item wording. Table S4 gives the Turkish source text and English translation of the open-ended responses quoted in the main text. Tables S5–S7 report the Spearman correlation matrix, the Mann–Whitney comparisons between students and practicing speech-language therapists, and the summary of open-ended responses. Tables S8 and S9 report the post hoc dominance analysis of the primary model and the group-specific regression models for students and practicing speech-language therapists. Tables S10–S12 report post hoc reliability and single-factor confirmatory factor analyses for each dimension, measurement invariance between students and practicing speech-language therapists, and further sensitivity analyses of the primary model. Table S10 also reports post hoc respecified models for three dimensions, Table S11 the corresponding multigroup comparisons, and Table S12 a structural equation model with latent perceived usefulness and likelihood of AI use. Tables S13 and S14 report post hoc item-level analyses of the self-rated knowledge dimension and task-level analyses of likelihood of AI use.

Table S1. Post hoc sensitivity regression using a two-item self-rated knowledge score

Variable	*B*	HC3 *SE*	β	95% CI for *B*	*t*	*p*
Constant	0.103	0.276	—	[−0.440, 0.646]	0.37	.709
Two-item self-rated knowledge score	−0.043	0.071	−.030	[−0.183, 0.097]	−0.60	.548
Frequency of AI use	0.039	0.051	.039	[−0.062, 0.140]	0.76	.447
Comfort with AI use	0.055	0.077	.041	[−0.096, 0.205]	0.71	.476
Experience with ChatGPT/AI	0.234	0.060	.238	[0.115, 0.352]	3.88	< .001
Concern: AI replacing SLT tasks	0.115	0.049	.109	[0.018, 0.212]	2.32	.021
Perceived usefulness of AI in SLT practice	0.572	0.064	.428	[0.447, 0.698]	8.96	< .001

$N = 377$. $R^2 = .359$; adjusted $R^2 = .349$. The OLS omnibus model test was $F(6, 370) = 34.58$, $p < .001$. *B* and β are OLS point estimates; *SE*, 95% CI, *t*, and *p* are based on HC3 heteroskedasticity-consistent inference. The two-item score comprised the two self-appraisal items of the knowledge dimension, excluding the item indexing incidental exposure to AI-related information. The substantive pattern was unchanged relative to the primary model (main text, Table 3). AI = artificial intelligence; CI = confidence interval; SLT = speech and language therapy.

Table S2. Post hoc expanded sensitivity regression including four evaluative dimensions

Variable	*B*	HC3 *SE*	β	95% CI for *B*	*t*	*p*
Constant	−0.054	0.281	—	[−0.607, 0.499]	−0.19	.848
Self-rated knowledge of AI technologies	−0.016	0.080	−.010	[−0.172, 0.141]	−0.20	.845
Frequency of AI use	0.052	0.052	.052	[−0.050, 0.153]	1.00	.317
Comfort with AI use	0.015	0.078	.011	[−0.138, 0.168]	0.19	.848
Experience with ChatGPT/AI	0.230	0.059	.234	[0.114, 0.347]	3.90	< .001
Concern: AI replacing SLT tasks	0.100	0.051	.095	[0.001, 0.200]	1.98	.048
Perceived usefulness of AI in SLT practice	0.369	0.079	.276	[0.214, 0.524]	4.68	< .001
Perceived accuracy: assessment scores	0.069	0.075	.057	[−0.080, 0.217]	0.91	.363
Perceived accuracy: assessment results	0.064	0.076	.059	[−0.085, 0.213]	0.85	.398
Perceived client satisfaction with AI	0.150	0.045	.173	[0.063, 0.238]	3.38	< .001
Effectiveness of AI: student skill development	0.038	0.059	.036	[−0.078, 0.155]	0.64	.519

N = 377. R^2 = .399; adjusted R^2 = .383. The OLS omnibus model test was $F(10, 366) = 24.32$, $p < .001$. Relative to the six-variable primary model estimated on the same cases, the four added evaluative dimensions increased explained variance by $\Delta R^2 = .041$, F-change(4, 366) = 6.19, $p < .001$. B and β are OLS point estimates; SE, 95% CI, t, and p are based on HC3 heteroskedasticity-consistent inference. The student-skill composite comprised nine items. Variance inflation factors ranged from 1.08 to 2.03. Entered as a block, the two perceived-accuracy dimensions (ϱ = .67) added $\Delta R^2 = .008$, F-change(2, 366) = 2.45, $p = .088$ (HC3-based Wald test, $p = .155$), so their individual coefficients are not interpreted separately. AI = artificial intelligence; CI = confidence interval; SLT = speech and language therapy.

Interpretation. In both sensitivity analyses, perceived usefulness and experience with ChatGPT/AI remained independently associated with likelihood of AI use. In the expanded model, perceived client satisfaction was also independently associated with the outcome, whereas the two perceived-accuracy dimensions and the student-skill composite were not. The standardized coefficient for perceived usefulness decreased from β = .427 in the primary model to β = .276. The replacement-concern coefficient decreased from B = 0.116 to B = 0.100, with an HC3-based p value of .048; because the primary model used conventional standard errors, the change in p value reflects both the change in specification and the change in inferential method.

Table S3. Summary of contextual adaptations to the source questionnaire

Dimension	Number of items	Adaptation summary
Perceived usefulness of AI in SLT practice	6	Original item structure and five-point response format retained. One item was expanded with clarifying examples of other professional contexts; no other items were reworded. The dimension was translated into Turkish following the procedure described in the Materials and Methods section of the main text.
Likelihood of AI use in SLT practice;	5 each	Original item structure and five-point response format retained for both dimensions, which share the same five task labels. Three labels were adapted for the Turkish clinical context: lesson plans,

Dimension	Number of items	Adaptation summary
concern: AI replacing SLT tasks		a term tied to school-based service delivery, was replaced by therapy planning, and evaluation and progress notes were specified as clinical evaluation and decision-making and as progress notes or report writing. Because likelihood of AI use is the outcome variable in the primary regression, it is not an item-for-item equivalent of the source measure.
Technology checklist	4 named tools plus an "Other" option	Updated to reflect tools available and in common use in Türkiye during the data-collection period: three tools named in the source checklist were omitted as less contextually relevant, and one contemporary generative-AI tool was added. The checklist format was otherwise retained; the tools presented to participants are listed in Table 1 of the main text.
Frequency of AI use	2	Not an item-for-item translation. The source construct averaged technology-specific frequency ratings across five named tools; in the adaptation, frequency was operationalized with two general items on habitual AI and ChatGPT use, to reduce dependence on the local availability and popularity of particular platforms. A five-point frequency response format was retained.
Perceived accuracy of assessment scores; perceived accuracy of assessment results	7 each	Five-point response format retained. The source instrument administers these two dimensions over different clinical-domain lists (construct lists in Appendix B of the source study): seven domains for one and eight for the other, with "stuttering" named in the first list and "fluency" in the second. In the adaptation both dimensions were administered over the same seven domains (articulation, language, pragmatics, fluency, voice, dysphagia, cognition) so that the two are directly comparable; fluency was used in place of stuttering because it is the broader domain. The dimension corresponding to the eight-domain source list therefore contains one item fewer, because a single language item was used in place of the separate expressive- and receptive-language items.
Self-rated knowledge of AI technologies	3	Original item structure and five-point response format retained; translated without contextual modification. Two items ask respondents to appraise their own knowledge of AI and one indexes incidental exposure to AI-related information, so the dimension reflects self-appraised familiarity rather than tested knowledge.
Remaining dimensions (comfort with AI use, experience with ChatGPT/AI, perceived client satisfaction, effectiveness for student skill development)	33 in total (see Table 2 of the main text for item counts by dimension)	Original item structure and five-point response format retained; translated without contextual modification. Two stems were rephrased. In the experience dimension, the examples of AI tools in the source stem (Amazon Alexa, Apple Siri, Grammarly, AI Art Generator, and Google's Project Euphonia) were replaced by a general reference to ChatGPT and other AI tools, because several of these tools are not in common use in Türkiye. In the client-satisfaction dimension, the source stem asks how pleased clients would be to interact with AI during a therapy session; because a literal translation was not readily comprehensible in Turkish, the stem was rephrased to ask how satisfied clients would be if AI were used by the therapist as an auxiliary tool during therapy.

Dimension	Number of items	Adaptation summary
		The domain list was retained. In the comfort dimension, the Turkish response anchors were worded as degrees of comfort (not at all, slightly, moderately, very, and extremely comfortable). In the replacement-concern dimension, they were worded as not at all concerned, slightly concerned, neither concerned nor unconcerned, highly concerned, and very highly concerned. The five-point format was retained in both dimensions.

The questionnaire was adapted from Austin et al. (Am J Speech Lang Pathol. 2025;34(1):174–200) with permission from the corresponding author to translate the instrument into Turkish and to make the cultural and contextual modifications required for its use in Türkiye (I. Ghanim, personal communication, 3 March 2026). Formal permission to translate and culturally adapt Appendix A of the questionnaire was subsequently granted by the American Speech-Language-Hearing Association (ASHA), the copyright holder. The source material is copyrighted by ASHA and is used with permission. To avoid reproducing copyrighted questionnaire content, the original and adapted item wording and stems are not reproduced, and response anchors are described only for the two dimensions in which they were reworded rather than translated (comfort and replacement concern); in the other dimensions, the anchors were translated, with the minor differences in wording that translation entails. The adapted questionnaire was not evaluated as a formally validated Turkish-language instrument. AI = artificial intelligence; SLT = speech and language therapy.

Table S4. Turkish source text for the open-ended responses quoted in the main text

Code	Group	Turkish response (verbatim)	English translation
ST1	Student	Yanlış anlayıp yanlış bilgi verebilir. Hatta direkt doğru anlayıp da yanlış bilgi verebilir.birde hasta önünde chate sorup onun dediğini yapmak hastaya o zaman ben neden buradayım ben de bakabilirim hissi verebilir.	It can misunderstand and give wrong information. It can even understand correctly and still give wrong information. And asking ChatGPT in front of the patient and doing what it says can give the patient the feeling of "then why am I here, I could look it up myself."
CL1	Clinician	Terapistin bilgi yetersizliği olduğu düşünülebilir aynı seans içerisinde hem terapotik ilişkiyi yürütüp hem yapay zeka kullanmak zor olabilir	The therapist may be thought to lack knowledge; within the same session it may be difficult both to maintain the therapeutic relationship and to use AI.
CL2	Clinician	standardize testlerde puanlama konusunda yanlış yönlendirme yapabilir, bireysel terapi planlamasında detaylı analiz yapamayabilir. yüzeysel kalma olasılığı yüksek.	It may misdirect scoring on standardized tests and may not perform detailed analysis in individualized therapy planning; the likelihood of remaining superficial is high.
CL3	Clinician	Terapistte muhakeme becerisi ve fikir yürütme zayıflar	The therapist's reasoning skills and capacity to think things through weaken.
ST2	Student	Raporlama işlerini hızlandırma, Angarya işleri yapma, Terapi materyal fikir üretme,	Speeding up reporting work, doing the drudge work, generating ideas for therapy materials.
CL4	Clinician	Terapistin özellikle evrak, rapor yazma vb. işleri başta olmak üzere yükünü hafifletme, çok sık görülmeyen sendromlar hakkında dil konuşma	Lightening the therapist's load, above all paperwork and report writing; offering information about speech and language skills in rarely seen syndromes; offering different therapy methods.

Code	Group	Turkish response (verbatim)	English translation
CL2	Clinician	becerileri hakkında bilgiler sunabilme, farklı terapi yöntemleri sunabilme işleri kolaylaştırabilir, puanlama için yardımcı olabilir, yüzeysel şekilde terapi planlamada taslak oluşturabilir ve o taslak üzerinden terapiler zenginleştirilebilir	It can make work easier and help with scoring; it can produce a superficial draft for therapy planning, and therapies can then be enriched from that draft.
CL5	Clinician	Bana göre yapay zeka ve GPT destekliyici , bilgilendirici ve farkındalık sağlayıp arttıran bir araç olarak faydalı olur fakat bir terapistin yerini tamamen tutmaz.	In my view AI and GPT are useful as a supportive, informative, awareness-raising tool, but they do not fully take a therapist's place.
ST3	Student	Körü körüne bağlı kalmayıp detaylı promptlar yazarak kullanılırsa ve terapist tarafından kişiselleştirip kendi bilgileri ile harmanlayıp kullanılırsa bilgilerin doğruluğu kontrol edilirse yararlı olabileceğini düşünüyorum	I think it can be useful if it is not followed blindly, if it is used by writing detailed prompts, if the therapist personalizes it and blends it with their own knowledge, and if the accuracy of the information is checked.
ST4	Student	Yapay zeka oldukça yararlı ve destekleyici bir unsur ancak kişinin mesleki bilgisi yoksa standart bir google arama motorundan farkı kalmayacaktır. Çalışma prensibi gereği %100 güvenememek gerekmektedir	AI is a very useful and supportive element, but if the person has no professional knowledge it will be no different from a standard Google search engine. Given how it works, one must not trust it 100%.

Turkish responses are reproduced exactly as submitted, including original spelling, spacing, and punctuation; no orthographic correction was applied. English translations are those used in the main text. Where the main text abridges a quotation, the omission is marked with an ellipsis; the full response appears here. Participant codes (ST = student, CL = clinician) were assigned for reporting only. Code CL2 appears twice because the same respondent is quoted on both challenges and benefits. Rows ST1–CL3 answer "Possible challenges of AI use in therapy settings"; rows ST2–CL2 answer "Possible benefits of AI use in therapy settings"; rows CL5–ST4 answer "Additional opinions or recommendations regarding AI."

Table S5. Spearman rank-order correlations among questionnaire dimensions ($N = 377$)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Self-rated knowledge of AI technologies	—										
2. Frequency of AI use	.40***	—									
3. Comfort with AI use	.44***	.35***	—								
4. Experience with ChatGPT/AI	.40***	.53***	.53***	—							
5. Concern: AI replacing SLT tasks	.00	−.01	.01	.13**	—						
6. Likelihood of AI use	.21***	.26***	.34***	.41***	.19***	—					
7. Perceived accuracy: assessment scores	.10	.09	.12*	.16**	.19***	.34***	—				
8. Perceived accuracy: assessment results	.12*	.12*	.22***	.20***	.14**	.35***	.67***	—			
9. Perceived client satisfaction	.14**	.09	.24***	.14**	.03	.42***	.40***	.39***	—		
10. Perceived usefulness of AI in practice	.24***	.20***	.37***	.29***	.07	.52***	.34***	.35***	.53***	—	
11. Effectiveness of AI: student skill development	.10*	.07	.24***	.18***	.08	.38***	.36***	.33***	.41***	.57***	—

Values are Spearman's ϱ. Variable numbering corresponds to Table 2 of the main text. Asterisks indicate unadjusted p values. Benjamini–Hochberg false discovery rate correction was applied across the 55 pairwise tests ($q = .05$); all unadjusted significant associations remained significant after correction except the small association between self-rated knowledge and student skill development (ϱ = .10, unadjusted $p = .046$, adjusted $p = .056$). SLT = speech and language therapy. * p < .05. ** p < .01. *** p < .001.

Table S6. Mann–Whitney U comparisons between students and practicing SLTs ($N = 377$)

Variable	Students *M* (*SD*)	Students *Mdn*	Practicing SLTs *M* (*SD*)	Practicing SLTs *Mdn*	*U*	*p*	r_{rb}
Self-rated knowledge of AI technologies	3.52 (0.56)	3.33	3.36 (0.55)	3.33	14,586	.046	−.12
Frequency of AI use	4.02 (0.83)	4.00	4.04 (0.96)	4.00	15,780	.411	.05
Comfort with AI use	3.25 (0.67)	3.12	3.17 (0.69)	3.12	15,783	.429	−.05
Experience with ChatGPT/AI	3.42 (0.89)	3.25	3.24 (0.93)	3.12	14,772	.075	−.11
Concern: AI replacing SLT tasks	2.55 (0.89)	2.40	2.28 (0.83)	2.20	13,786	.006	−.17
Likelihood of AI use	3.14 (0.86)	3.20	3.10 (0.93)	3.20	16,092	.625	−.03

Variable	Students *M* (*SD*)	Students *Mdn*	Practicing SLTs *M* (*SD*)	Practicing SLTs *Mdn*	*U*	*p*	r_{rb}
Perceived accuracy: assessment scores	2.41 (0.73)	2.43	2.46 (0.77)	2.43	15,714	.391	.05
Perceived accuracy: assessment results	2.69 (0.80)	2.71	2.74 (0.85)	2.86	15,617	.340	.06
Perceived client satisfaction with AI	2.29 (0.95)	2.00	2.65 (1.07)	2.88	13,382	.002	.19
Perceived usefulness of AI in practice	3.06 (0.69)	3.00	3.10 (0.67)	3.00	16,065	.607	.03
Effectiveness of AI: student skill development	2.87 (0.82)	3.00	2.71 (0.87)	2.78	15,020	.124	−.09

M = mean; *SD* = standard deviation; *Mdn* = median; r_{rb} = rank-biserial correlation (effect size). Positive r_{rb} values indicate higher scores for practicing SLTs; negative values indicate higher scores for students. A Bonferroni-corrected threshold of α = .0045 (.05/11) was applied. *U* values are reported as the smaller of the two Mann–Whitney statistics; the sign of r_{rb} indicates the direction of the difference. SLT = speech-language therapist.

Table S7. Summary of open-ended responses regarding the use of artificial intelligence and ChatGPT in speech and language therapy contexts

Question	Student responses	Clinician responses
Institutional practices regarding AI use (students n = 130; clinicians n = 224)	Themes included an absence of formal policies, supportive educational use, academic monitoring or restrictions, and cautious or critical use.	Clinicians reported an absence of formal institutional policies or regulations regarding AI use in clinical settings.
Presence of written institutional AI policies (students n = 132; clinicians n = 232)	Responses described the absence of written policies, uncertainty about their existence, or the possibility that policies existed.	Responses described the absence of written institutional AI policies, uncertainty about their existence, or existing or partial regulations.
Possible challenges of AI use in therapy settings (students n = 132; clinicians n = 230)	Concerns included inaccurate information, disruption of therapeutic relationships, limitations in individualized intervention planning, ethical/confidentiality concerns, reduced creativity and clinical reasoning, and distraction during therapy sessions.	Clinicians similarly emphasized inaccurate information, disruption of therapeutic alliance, limited individualization, interruption of therapy flow, reduced creativity and clinical reasoning, ethical concerns, and technical/practical difficulties.
Possible benefits of AI use in therapy settings (students n = 132; clinicians n = 233)	Students emphasized material preparation and content generation, time saving and workload reduction, idea generation, rapid access to information, therapy planning support, individualized material preparation, and real-time support during therapy.	Clinicians highlighted material development and therapy resource generation, time saving and workload reduction, idea generation, therapy planning support, rapid access to professional knowledge, individualized material preparation, and reporting/documentation support.
Additional opinions or recommendations regarding AI (students n = 132; clinicians n = 221)	Students emphasized that AI should function as a supportive tool rather than replace therapists. Other themes included concerns about misinformation, overdependence and reduced creativity, and the need for controlled and supervised use.	Clinicians emphasized supportive rather than substitutive use of AI, controlled and ethically informed use, benefits for workload reduction, concerns about misinformation, professional ethics, AI literacy/training needs, and the irreplaceable role of human interaction in therapy.

Response denominators reflect participants who provided a nonblank response to each optional open-ended item; responses consisting only of punctuation were treated as blank. Categories are reported descriptively rather than as frequency counts, because coding was conducted at the idea-unit level and a single response could contribute to more than one category; category counts would therefore not represent mutually exclusive respondent groups.

Table S8. Post hoc general dominance analysis of the primary regression model

Variable	General dominance weight	% of R^2	95% bootstrap CI	Rank
Self-rated knowledge of AI technologies	.013	3.5	[.005, .033]	6
Frequency of AI use	.020	5.6	[.008, .042]	4

Variable	General dominance weight	% of R^2	95% bootstrap CI	Rank
Comfort with AI use	.037	10.4	[.016, .071]	3
Experience with ChatGPT/AI	.077	21.6	[.042, .124]	2
Concern: AI replacing SLT tasks	.019	5.2	[.002, .053]	5
Perceived usefulness of AI in SLT practice	.193	53.8	[.125, .266]	1

N = 377. General dominance weights are the average increase in R^2 attributable to each variable across all subset models of the six variables and sum to the model R^2 (.359; main text, Table 3). Percentile bootstrap 95% CIs are based on 1,000 resamples. The difference between the weights for experience with ChatGPT/AI and self-rated knowledge was .065 (95% CI [.025, .110]). Approximate correction of the bivariate Spearman associations with likelihood of AI use for unreliability (ϱ divided by the square root of the product of the two α coefficients) yielded .32 for self-rated knowledge (observed ϱ = .21) and .46 for experience with ChatGPT/AI (observed ϱ = .41). AI = artificial intelligence; CI = confidence interval; SLT = speech and language therapy.

Table S9. Post hoc group-specific regression models for likelihood of AI use

Variable	*B*	*SE*	β	95% CI for *B*	*t*	*p*
Final-year students (*n* = 140)						
Constant	0.134	0.425	—	[−0.708, 0.976]	0.31	.753
Self-rated knowledge of AI technologies	0.080	0.113	.052	[−0.144, 0.303]	0.70	.483
Frequency of AI use	−0.102	0.086	−.099	[−0.272, 0.067]	−1.19	.235
Comfort with AI use	−0.005	0.105	−.004	[−0.214, 0.203]	−0.05	.960
Experience with ChatGPT/AI	0.394	0.085	.409	[0.225, 0.563]	4.62	< .001
Concern: AI replacing SLT tasks	0.012	0.062	.012	[−0.110, 0.134]	0.19	.849
Perceived usefulness of AI in SLT practice	0.581	0.086	.466	[0.410, 0.751]	6.74	< .001
Practicing SLTs (*n* = 237)						
Constant	−0.057	0.398	—	[−0.840, 0.727]	−0.14	.887
Self-rated knowledge of AI technologies	−0.022	0.111	−.013	[−0.241, 0.197]	−0.20	.844
Frequency of AI use	0.084	0.065	.087	[−0.044, 0.213]	1.30	.196
Comfort with AI use	0.083	0.097	.061	[−0.107, 0.274]	0.86	.390
Experience with ChatGPT/AI	0.135	0.077	.135	[−0.016, 0.287]	1.76	.080
Concern: AI replacing SLT tasks	0.198	0.063	.177	[0.073, 0.323]	3.13	.002
Perceived usefulness of AI in SLT practice	0.559	0.082	.402	[0.397, 0.721]	6.79	< .001

B and β are OLS estimates with conventional standard errors, as in the primary model (main text, Table 3). Students: R^2 = .474, adjusted R^2 = .450, $F(6, 133) = 19.96$, $p < .001$. Practicing SLTs: R^2 = .323, adjusted R^2 = .306, $F(6, 230) = 18.31$, $p < .001$. In the combined sample, the six professional status × variable interaction terms did not jointly improve the model over a model with professional status as a main effect (ΔR^2 = .015, $F[6, 363] = 1.47$, p = .186); the individual interaction terms for experience with ChatGPT/AI (p = .033) and replacement concern (p = .044) did not meet the Bonferroni-corrected threshold (α = .0083). In the practicing SLT subsample, adding years of professional experience and work setting (special education and rehabilitation center vs. other) increased R^2 from .323 to .335; neither covariate was significant (ps = .824 and .062), and the coefficient pattern was unchanged. AI = artificial intelligence; CI = confidence interval; OLS = ordinary least squares; SLT = speech-language therapist.

Table S10. Post hoc reliability and single-factor confirmatory factor analyses for each questionnaire dimension (*N* = 377)

Dimension	*k*	α students	α SLTs	ω	r_{it}	χ^2 (*df*)	CFI	RMSEA	SRMR	Loadings
Self-rated knowledge of AI technologies	3	.527	.467	.623	.18–.46	—	—	—	—	.21–.96
Frequency of AI use	2	.932	.937	—	.88	—	—	—	—	—
Comfort with AI use	8	.858	.871	.870	.53–.74	174.0 (20)	.850	.162	.077	.54–.81
Experience with ChatGPT/AI	8	.913	.912	.913	.58–.79	168.4 (20)	.890	.165	.058	.60–.85
Experience with ChatGPT/AI, respecified[b]	8	—	—	.871	—	82.0 (18)	.955	.112	.038	.57–.86
Concern: AI replacing SLT tasks	5	.864	.853	.861	.58–.76	108.5 (5)	.853	.270	.079	.62–.85
Likelihood of AI use in SLT practice	5	.881	.873	.877	.58–.79	14.0 (5)	.985	.086	.026	.62–.87
Perceived accuracy: assessment scores	7	.873	.858	.864	.55–.72	83.2 (14)	.902	.141	.057	.61–.78
Perceived accuracy: assessment results	7	.926	.912	.917	.66–.78	83.2 (14)	.920	.161	.048	.69–.83
Perceived client satisfaction with AI	8	.949	.954	.952	.72–.87	118.6 (20)	.908	.193	.052	.71–.92
Perceived client satisfaction, respecified[c]	8	—	—	.928	—	76.5 (19)	.947	.149	.041	.75–.89
Perceived usefulness of AI in SLT practice	6	.775	.754	.738	.37–.59	166.6 (9)	.716	.236	.131	.28–.83
Perceived usefulness, respecified[a]	6	—	—	.638	—	33.7 (7)	.956	.105	.051	.36–.73
Effectiveness of AI: student skill development	9	.909	.921	.919	.59–.77	202.4 (27)	.866	.167	.065	.61–.79

k = number of items; α = Cronbach's alpha in students (*n* = 140) and practicing SLTs (*n* = 237), with values for the full sample given in Table 2 of the main text; ω = McDonald's omega computed from the standardized loadings of the single-factor model; r_{it} = corrected item–total correlation (for the two-item frequency dimension, the inter-item correlation). Single-factor models were estimated in lavaan 0.6-17 with robust maximum likelihood; χ^2 is the scaled statistic and CFI and RMSEA are robust versions. The three-item knowledge model is just-identified, so fit indices are not defined. Loadings are standardized. The models are post hoc descriptions of the structure of the adapted scores in this sample, not a validation of the instrument. [a] Residual covariances between the administrative-duties and other-professional-activities items and between the therapeutic-relationship and social-skills items; TLI = .906, RMSEA 90% CI [.071, .142]. [b] Residual covariances between the two items on others' use (advisor or instructor; colleagues or classmates) and between the two general life-domain items (personal and professional life); TLI = .930, RMSEA 90% CI [.088, .137]. [c] Residual covariance between the receptive- and expressive-language items; TLI = .923, RMSEA 90% CI [.115, .185]. Residual covariances were specified after inspection of the single-factor models and were restricted to item pairs sharing identifiable content; the respecified models are therefore post hoc. ω for the respecified models includes the residual covariances in the denominator. With weighted least squares mean- and variance-adjusted (WLSMV) estimation treating items as ordinal, the respecified models yielded CFI = .979, .976, and .985 and RMSEA = .130, .154, and .216, respectively. Because most single-factor models, and some respecified models, did not meet conventional fit criteria, dimension scores are treated as composites of related ratings rather than as measures of validated unidimensional constructs. AI = artificial intelligence; SLT = speech and language therapy.

Table S11. Post hoc measurement invariance between students and practicing SLTs

Dimension	Configural CFI	Configural RMSEA	Metric ΔCFI	Metric Δχ^2 (*df*)	Metric *p*	Scalar ΔCFI	Scalar Δχ^2 (*df*)	Scalar *p*
Comfort with AI use	.846	.165	.001	6.06 (7)	.532	−.003	10.60 (7)	.157
Experience with ChatGPT/AI	.884	.170	.001	4.47 (7)	.724	−.012	31.20 (7)	< .001
Concern: AI replacing SLT tasks	.859	.264	−.002	5.05 (4)	.282	−.011	14.42 (4)	.006

Dimension	Configural CFI	Configural RMSEA	Metric ΔCFI	Metric Δχ² (*df*)	Metric *p*	Scalar ΔCFI	Scalar Δχ² (*df*)	Scalar *p*
Likelihood of AI use in SLT practice	.988	.078	.003	1.58 (4)	.813	.001	2.76 (4)	.599
Perceived accuracy: assessment scores	.904	.140	−.003	9.48 (6)	.148	−.001	7.45 (6)	.281
Perceived accuracy: assessment results	.918	.164	−.006	18.61 (6)	.005	.001	3.96 (6)	.681
Perceived client satisfaction with AI	.899	.201	−.000	8.64 (7)	.280	−.001	9.39 (7)	.226
Perceived client satisfaction, respecified[a]	.939	.160	.000	8.76 (7)	.270	−.002	13.14 (7)	.069
Perceived usefulness of AI in SLT practice	.712	.238	.006	1.40 (5)	.925	−.021	20.34 (5)	.001
Perceived usefulness, respecified[a]	.957	.104	.008	0.80 (5)	.977	−.013	14.43 (5)	.013
Effectiveness of AI: student skill development	.863	.169	.000	7.21 (8)	.515	−.007	22.14 (8)	.005

Students, n = 140; practicing SLTs, n = 237. Multigroup single-factor models were estimated in lavaan 0.6-17 with robust maximum likelihood. Metric models constrained loadings, and scalar models constrained loadings and intercepts, to equality across groups; Δ values are relative to the preceding model, and $\Delta\chi^2$ is the Satorra–Bentler scaled difference test. A decrease in CFI of .010 or more or an increase in RMSEA of .015 or more was taken to indicate noninvariance; RMSEA did not increase by .015 or more in any comparison. Invariance tests presuppose an adequately fitting configural model. Because the configural models did not meet conventional fit criteria for any dimension except likelihood of AI use, including after respecification, small changes in fit under equality constraints are not interpreted as evidence of metric or scalar invariance; the results are reported for transparency. Group differences in observed scores (Table S6) therefore cannot be attributed with confidence to differences in the underlying appraisals. Dimensions with fewer than four items are not shown. [a] Respecified models with the residual covariances described in Table S10. SLT = speech-language therapist.

Table S12. Post hoc sensitivity analyses of the primary regression model for likelihood of AI use

Variable	Primary model (N = 377)	Including excluded respondents (N = 443)	First response per IP address (n = 371)	Usefulness subscores (N = 377)
Self-rated knowledge of AI technologies	−.006	−.002	.001	−.006
Frequency of AI use	.035	.031	.039	.035
Comfort with AI use	.032	.063	.014	.032
Experience with ChatGPT/AI	.239***	.223***	.236***	.238***
Concern: AI replacing SLT tasks	.110**	.076	.134**	.110*
Perceived usefulness of AI in SLT practice	.427***	.404***	.427***	—
Usefulness: outside the therapeutic encounter	—	—	—	.221***
Usefulness: within the therapeutic encounter	—	—	—	.272***
R^2 (adjusted R^2)	.359 (.348)	.331 (.322)	.359 (.348)	.359 (.346)

Values are standardized regression coefficients (β) from ordinary least squares models; one, two, and three asterisks denote $p < .05$, $p < .01$, and $p < .001$, respectively (conventional standard errors). The second model includes the 66 respondents who failed the attention check; the third retains only the first response from each of the IP addresses shared by more than one response; the fourth replaces the perceived-usefulness score with the mean of the items on administrative work, other professional activities, and the education of future clinicians (outside the therapeutic encounter) and the mean of the items on use during therapy sessions, therapeutic relationships, and clients' social skills (within the therapeutic encounter). In an additional structural equation model (robust maximum likelihood) in which perceived usefulness (single factor with the two residual covariances described in Table S10) and likelihood of AI use were latent variables and the other predictors were observed composite scores, standardized coefficients were: self-rated knowledge, −.017; frequency of AI use, .034; comfort, .064; experience with ChatGPT/AI,

.257 ($p < .001$); replacement concern, .141 ($p = .005$); perceived usefulness, .553 (95% CI [.426, .681], $p < .001$); R^2 for the latent outcome = .432, which is not directly comparable with the OLS values. Model fit was CFI = .913, TLI = .894, RMSEA = .069, 90% CI [.059, .080], SRMR = .107. When experience was also modeled as a latent variable (respecified model in Table S10), the pattern was unchanged (perceived usefulness, β = .567; experience, β = .189, $p = .008$; replacement concern, β = .140, $p = .005$; $R^2 = .460$), although fit was poorer (CFI = .851, SRMR = .151). AI = artificial intelligence; IP = internet protocol; SLT = speech and language therapy.

Table S13. Post hoc item-level analysis of the self-rated knowledge dimension ($N = 377$)

Item	*M*	*SD*	Corrected item–total *r*	α if item deleted	ϱ with likelihood of AI use	β in primary model	*p*
Knowledge of AI and ChatGPT (self-rating)	2.98	0.65	.46	.201	.18***	.072	.154
Comfort explaining AI and ChatGPT	3.20	0.79	.35	.326	.09	−.100	.046
Exposure to AI-related content in daily life	4.08	0.91	.18	.664	.18***	.023	.614

The β values are standardized coefficients when the three knowledge items replace the knowledge score in the primary model, with the other five variables unchanged; *p* values are based on conventional standard errors. Inter-item correlations were .51 (rating and comfort explaining), .21 (rating and exposure), and .11 (comfort explaining and exposure). ϱ = Spearman correlation with likelihood of AI use; three asterisks denote $p < .001$. The item wording is summarized rather than reproduced because the source material is copyrighted by ASHA.

Table S14. Post hoc task-level analysis of likelihood of AI use ($N = 377$)

Task	*M* (*SD*)	% likely	Students *M*	SLTs *M*	β usefulness	β experience	β replacement concern	R^2
Assessment	2.84 (1.19)	36.1	2.91	2.80	.305***	.340***	.137**	.267
Intervention/therapy	3.07 (1.12)	43.8	3.04	3.08	.381***	.217***	.068	.263
Clinical evaluation and decision-making	2.85 (1.14)	34.7	2.88	2.84	.401***	.188**	.145**	.308
Therapy planning	3.32 (1.06)	54.1	3.36	3.29	.338***	.158*	.081	.250
Progress notes or report writing	3.49 (1.02)	62.6	3.53	3.47	.320***	.051	.008	.168

Each row is a separate model with the single likelihood-of-use task as the outcome and the six primary variables as predictors; β = standardized coefficient (self-rated knowledge, frequency of use, and comfort were included but are not shown, and none was significant for any task). One, two, and three asterisks denote $p < .05$, $p < .01$, and $p < .001$ (conventional standard errors). % likely = percentage of participants responding "probably" or "definitely" would use. Students, $n = 140$; practicing SLTs, $n = 237$. In a confirmatory comparison of the six perceived-usefulness and five likelihood-of-use items (robust maximum likelihood), neither the one-factor model (scaled $\chi^2[44] = 433.35$, CFI = .735, TLI = .669, RMSEA = .167, 90% CI [.153, .181], SRMR = .110) nor the two-factor model (scaled $\chi^2[43] = 257.12$, CFI = .857, TLI = .818, RMSEA = .124, 90% CI [.109, .139], SRMR = .092) fitted adequately, although the two-factor model fitted better (scaled $\Delta\chi^2[1] = 93.73$, $p < .001$; latent correlation .58, 95% CI [.46, .70]). Allowing the two residual covariances among usefulness items described in Table S10 yielded acceptable fit for the two-factor model (scaled $\chi^2[41] = 103.46$, CFI = .958, TLI = .944, RMSEA = .069, 90% CI [.052, .085], SRMR = .051), with a latent correlation of .65 (95% CI [.55, .76]). A residual correlation between the administrative-duties usefulness item and the report-writing likelihood item (.19, 95% CI [.10, .29]) indicated content overlap between the two dimensions. These results indicate distinguishable but substantially related dimensions; they do not establish that either dimension is a validated unidimensional construct. SLT = speech-language therapist.

Supplementary File S1

STROBE checklist for cross-sectional studies

Manuscript: "Factors associated with intended professional use of artificial intelligence among speech-language therapy students and practicing clinicians: a cross-sectional survey in Türkiye." Locations are given by manuscript section.

Item	Reporting element (paraphrased)	Location in manuscript
1a	Title/abstract: indicate the study design with a commonly used term	Title ("a cross-sectional survey"); Abstract—Methods
1b	Abstract: informative and balanced summary of what was done and found	Abstract
2	Scientific background and rationale	Introduction
3	Specific objectives, including prespecified hypotheses	Introduction, final paragraph (primary and secondary research questions)
4	Key elements of study design presented early	Materials and Methods—Study design and setting
5	Setting, locations, and relevant dates, including recruitment and data collection	Materials and Methods—Study design and setting; Participants; Data collection (22 September–10 October 2026); Institutional Review Board Statement; Informed Consent Statement
6	Eligibility criteria, sources and methods of participant selection	Materials and Methods—Participants
7	Definition of outcomes, exposures, predictors, and potential confounders	Materials and Methods—Instrument; Data analysis
8	Data sources and details of measurement methods	Materials and Methods—Instrument; Adaptation procedure; Table S3; post hoc factor-analytic and measurement invariance analyses, Tables S10–S11
9	Efforts to address potential sources of bias	Materials and Methods—Participants (attention check; comparison of excluded and retained respondents; duplicate-response screening); Data analysis (multiplicity control, bootstrap and sensitivity analyses); Discussion—Strengths and limitations
10	How the study size was arrived at	Materials and Methods—Participants (convenience sample; all respondents passing the attention check retained); Data analysis (no a priori sample size calculation)
11	Handling of quantitative variables in the analyses	Materials and Methods—Instrument (dimension scores as item means); Data analysis
12a	Statistical methods, including those used to control for confounding	Materials and Methods—Data analysis
12b	Methods used to examine subgroups and interactions	Materials and Methods—Data analysis (professional status covariate; group-specific models; post hoc joint interaction test); Results—Factors associated with likelihood of AI use; Table S9
12c	How missing data were addressed	Materials and Methods—Participants; Data analysis (no missing closed-ended data)

Item	Reporting element (paraphrased)	Location in manuscript
12d	Analytical methods taking account of sampling strategy	Not applicable (non-probability sample; no sampling weights)
12e	Sensitivity analyses	Materials and Methods—Data analysis; Results—Factors associated with likelihood of AI use; Tables S1–S2, S8–S9; Tables S10–S14
13a	Numbers of individuals at each stage of the study	Abstract—Methods; Materials and Methods—Participants
13b	Reasons for non-participation at each stage	Materials and Methods—Participants. No reasons for non-participation could be recorded because recruitment was open; of 443 individuals who entered the survey, 66 were excluded from the analytic sample after data collection because they failed the attention check, and no other exclusions were applied
13c	Flow diagram	Not provided; participant flow is reported in Materials and Methods—Participants
14a	Characteristics of study participants	Results—Participant characteristics; Table 1
14b	Number of participants with missing data for each variable	Materials and Methods—Data analysis; Table S7 (denominators for optional open-ended items)
15	Numbers of outcome events or summary measures	Results; Table 2; Tables S5–S6
16a	Unadjusted and adjusted estimates with precision	Adjusted estimates with precision: unstandardized coefficients with 95% CIs and percentile bootstrap intervals (Results—Factors associated with likelihood of AI use; Table 3; Tables S1–S2). Unadjusted bivariate associations are reported as Spearman coefficients with p values, without confidence intervals (Results—Correlations among dimensions; Table S5)
16b	Category boundaries when continuous variables were categorized	Not applicable; no continuous analytical variables were categorized. Categorical response options for demographic items (e.g., age group, years of experience) were defined at data collection and are shown in Table 1
16c	Translation of relative risk into absolute risk	Not applicable
17	Other analyses (subgroups, interactions, sensitivity analyses)	Results—Factors associated with likelihood of AI use; Tables S1–S2, S8–S14
18	Key results with reference to study objectives	Discussion—Main findings
19	Limitations, including sources of potential bias or imprecision	Discussion—Strengths and limitations
20	Cautious overall interpretation	Discussion; Conclusions
21	Generalisability (external validity)	Discussion—Students and practicing clinicians; Strengths and limitations
22	Source of funding and role of funders	Funding

Reporting elements are concise paraphrases of the STROBE checklist for cross-sectional studies; the official checklist should be consulted for the full wording. Reference: von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. Lancet. 2007;370(9596):1453–7. https://doi.org/10.1016/S0140-6736(07)61602-X