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Need for Social Approval and Resilience-Related Protective Factors in Adults Who Stutter: A Comparative and Correlational Study

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Abstract

Stuttering is associated with psychosocial challenges that may increase vulnerability to social evaluation. This study examined whether adults who stutter (AWS) differ from adults who do not stutter (AWNS) in their need for social approval and investigated the relationship between social approval and resilience-related protective factors in AWS. The final analytic sample comprised 126 adults aged 18–49 years (69 AWS and 57 AWNS). No statistically significant differences were detected in sex or age-category distributions; these tests were used to describe demographic comparability and were not interpreted as evidence of statistical equivalence. Participants completed the Need for Social Approval Scale and the Protective Factors for Psychological Resilience Scale. AWS had a significantly higher total need for social approval than AWNS (76.90 ± 18.93 vs. 67.75 ± 16.10), $t(124) = 2.885$, $p = 0.005$, Hedges' $g = 0.513$, bootstrap 95% CI [0.17, 0.91]. Within AWS, total need for social approval was moderately and inversely associated with total resilience-related protective factors (Spearman $\rho = -0.429$, $p < 0.001$, bootstrap 95% CI [−0.620, −0.192]; Holm-adjusted $p = 0.003$). In an age- and sex-adjusted sensitivity analysis using all eligible participants aged 18–49 years (69 AWS and 82 AWNS), AWS status remained associated with higher total social approval scores (B = 8.50, 95% CI [1.99, 15.02], $p = 0.011$). These findings describe associations between approval-oriented social concerns and perceived protective resources; the cross-sectional design does not establish causal mechanisms or intervention targets.

Keywords: stuttering; need for social approval; resilience-related protective factors; social evaluation; adults who stutter

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1. Introduction

Stuttering is a neurodevelopmental disorder of speech fluency with multifactorial influences rather than a condition attributable to a single causal factor. Speech-motor, linguistic, genetic, and emotional factors may contribute to its emergence or shape its developmental course and lived impact (Smith & Weber, 2017). For adults who stutter (AWS), the burden can extend well beyond observable speech disfluency. In a large sample of AWS, greater self-reported stuttering burden was associated with higher levels of depression, anxiety, and stress and with adverse effects on education and employment (Engelen et al., 2024). Ecological momentary assessment has also shown that trait social anxiety and characteristics of everyday social situations are related to how AWS experience stuttering in daily life (Lei

et al., 2024b). Examining these psychosocial processes alongside speech characteristics is important because individuals with comparable observable stuttering can differ substantially in distress, avoidance, and the lived impact of stuttering; such assessment can therefore capture clinically relevant dimensions that speech-frequency measures alone may not reflect (Engelen et al., 2024; Lei et al., 2024a).

Sensitivity to social evaluation is one of the most consistently documented psychosocial concerns in adult stuttering. Social anxiety is a clinically relevant concomitant of stuttering and has been the focus of substantial research (Iverach & Rapee, 2014). AWS may show negative social expectancies and heightened fear of negative evaluation (Messenger et al., 2004). Importantly, fear of negative evaluation is not uniformly elevated across AWS. Brundage et al. (2017) found that judgment bias was particularly evident in AWS with higher fear of negative evaluation, underscoring meaningful heterogeneity within the population. This heterogeneity may partly reflect earlier social experiences: a history of childhood bullying has been associated with later social anxiety and fear of negative evaluation in adults who stutter (Blood & Blood, 2016). Adult-focused evidence further supports this heterogeneity. AWS with social anxiety disorder report greater avoidance of speaking situations and broader psychological difficulties than AWS without social anxiety disorder, despite not showing greater stuttering severity; multilevel analyses also indicate that overall stuttering impact, avoidance behaviors, and personality characteristics contribute to social anxiety beyond observable severity (Iverach et al., 2018; Lei et al., 2024a). More recent research also implicates self-focused attention, safety behaviors, and negative self-imagery in social anxiety among AWS. Self-focused attention refers to directing attention toward one's own performance and perceived social presentation; safety behaviors are strategies used to prevent feared negative outcomes during social interaction, including avoidance- and control-oriented strategies; and negative self-imagery involves unfavorable mental representations of how one may appear to others (Lowe et al., 2017; Swift et al., 2024). These processes occur within a broader interpersonal and stigma-related context. AWS report enacted stigma as well as expectations of discrimination or negative treatment from others (Boyle, 2018), and self-stigma-related variables predict poorer communicative participation and mental health even after demographic and speech-related variables are considered (Boyle et al., 2023). Concealment is another relevant process: stigma-identity research has linked greater concealment of stuttering with psychological distress, and recent qualitative work describes concealment as a context-dependent process involving linguistic, speaking, situational, and self-presentation strategies (Gerlach et al., 2021; Gerlach-Houck & Cage, 2025). Social anxiety is additionally associated with greater post-event processing, characterized by self-critical rumination after stressful communication experiences (Croft & Byrd, 2023). Together, these findings indicate that perceived and anticipated evaluations by other people can be highly salient in the psychosocial experience of stuttering.

Need for social approval refers to the tendency to seek acceptance and positive evaluation from others while attempting to avoid interpersonal disapproval. It is a multidimensional social-evaluative construct that encompasses sensitivity to the judgments of others, social withdrawal, and efforts to make a positive impression (Karaşar & Öğülmüş, 2016). Rather than representing a diagnostic feature of social anxiety, the construct reflects the extent to which individuals orient their behavior and self-presentation toward obtaining external approval. Its broader psychological relevance has also been demonstrated in clinical research; greater need for social approval has been associated with depressive symptom severity and lower self-esteem among individuals with major depressive disorder (Canlı & Karaşar, 2021). More recent evidence suggests that approval-seeking may also function as an important mechanism linking fear of negative evaluation with other socially oriented psychological experiences. Specifically, Akbay et al. (2026) found that

need for social approval statistically mediated the association between fear of negative evaluation and fear of missing out among emerging adults. Taken together, these findings suggest that need for social approval represents a distinct but closely related component of social-evaluative vulnerability that may be particularly relevant in populations exposed to recurrent interpersonal judgment or anticipated negative evaluation. This distinction may be particularly informative in stuttering, where negative social expectancies, stigma, avoidance, self-monitoring, and fear of evaluation have already been documented through other psychosocial constructs.

Within the stuttering literature, social-evaluative concerns have therefore been studied primarily through social anxiety, fear of negative evaluation, stigma, self-stigma, concealment, and related cognitive or behavioral processes. Direct examination of the need for social approval as operationalized by a multidimensional approval measure appears comparatively limited. Studying this construct may extend, rather than duplicate, the existing literature because its dimensions distinguish sensitivity to others' judgments from withdrawal-related tendencies and efforts to make a positive impression. A direct comparison between AWS and adults who do not stutter (AWNS) can help determine whether approval-oriented concerns are elevated in AWS and whether any difference is evident across these distinct dimensions.

Resilience-related protective factors represent a complementary perspective focused on resources that may support adaptation in the face of adversity. The Protective Factors for Resilience Scale (PFRS) conceptualizes protection through personal resources, family resources, and peer resources and supports an overall protective-factor score (Harms et al., 2017). Accordingly, scores from the PFRS are interpreted in the present study as perceived protective resources associated with resilience rather than as a direct measurement of psychological resilience itself. This resource-based approach is relevant to persistent stuttering because communication challenges and their psychosocial consequences can recur across social, educational, and occupational contexts. In adults who stutter, resilience has been linked to self-acceptance and satisfaction with life, suggesting that resilient attitudes may buffer some adverse consequences associated with stuttering (Plexico et al., 2019). Freud and Amir (2020) further reported a strong association between resilience and the subjective experience of stuttering, whereas resilience was not associated with observer-based stuttering severity. More recently, Şen and Kocabıyık (2026) reported lower resilience-related scores in AWS than in AWNS and found negative associations between resilience and fear of missing out. Although fear of missing out is conceptually distinct from the need for social approval, these findings add contemporary evidence that resilience-related resources are relevant to socially oriented psychological experiences in adults who stutter. Considering the need for social approval together with resilience-related protective factors may provide a more integrated view of psychosocial functioning in adults who stutter. Greater dependence on external approval may coexist with fewer perceived personal or interpersonal protective resources, whereas stronger protective resources may be associated with less vulnerability to external evaluation. These possibilities should not be interpreted as a predetermined causal pathway. In a cross-sectional design, a negative association could reflect multiple processes, or both constructs may be influenced by other psychosocial factors. Examining the relationship empirically is therefore warranted without presuming direction of causality.

Accordingly, the present study had two primary aims. First, we examined whether AWS and AWNS differed in their total need for social approval. Second, we examined the association between total need for social approval and total resilience-related protective factors within the AWS group. We hypothesized that AWS would report a higher total need for social approval than AWNS and that greater need for social approval would be associated

with fewer resilience-related protective factors among AWS. Comparisons across the three social approval dimensions and correlations between social approval and protective-factor subdimensions were treated as secondary analyses.

2. Materials and Methods

2.1. Study Design, Participants, and Analytic Sample

This cross-sectional comparative and correlational study initially included adults aged 18–60 years. The corrected source dataset contained 159 participants (73 AWS and 86 AWNS). Because only eight participants were represented in the 50–60-year range (4 AWS and 4 AWNS), this sparsely represented age range was excluded from both groups before outcome analyses, leaving 69 AWS and 82 AWNS aged 18–49 years. The age restriction and subsequent control-group subsampling were not prespecified in the original protocol; they were introduced during reanalysis, before testing the study outcomes, to reduce the potential influence of the marked age and sex imbalance observed in the eligible group pool. An a priori two-group power analysis conducted with G*Power (version 3.1.9.7; Heinrich Heine University Düsseldorf, Düsseldorf, Germany) for a two-sided standardized mean difference of d = 0.65, $\alpha = 0.05$, and 95% power indicated a minimum total sample size of 126 participants. To reduce demographic imbalance while retaining at least this prespecified total sample size, all 69 eligible AWS aged 18–49 years were retained. Among the 82 eligible AWNS, all 35 men were retained because men were underrepresented in the comparison pool relative to the AWS group. From the 47 eligible women, 22 were selected within age strata using outcome-blind random sampling with a fixed random seed (20260903): 9 of 12 women aged 18–24 years, 8 of 10 aged 25–29 years, all 5 aged 30–34 years, and none of the 20 women aged 35–49 years. This yielded AWNS age-stratum totals of 23, 14, 11, and 9, respectively, and a final analytic sample of 126 participants (69 AWS and 57 AWNS). Selection was based exclusively on stuttering status, sex, and age; no Need for Social Approval Scale or PFRS responses or scores were examined or used during selection.

In the final analytic sample, no statistically significant between-group difference was detected in sex distribution (Pearson $\chi^2(1) = 1.297$, $p = 0.255$, Cramer's V = 0.101) or age-category distribution (Pearson $\chi^2(3) = 0.051$, $p = 0.997$, Cramer's V = 0.020). These non-significant tests were used only to describe the achieved demographic balance and were not interpreted as evidence that the groups were statistically equivalent. Participant characteristics are presented in Table 1.

Table 1. Demographic characteristics and group comparability of the final analytic sample.

Characteristic	AWS, *n*	AWS, %	AWNS, *n*	AWNS, %
Sex				
Women	20	29.0	22	38.6
Men	49	71.0	35	61.4
Age group (years)				
18–24	28	40.6	23	40.4
25–29	17	24.6	14	24.6
30–34	14	20.3	11	19.3
35–49	10	14.5	9	15.8

Note: AWS = adults who stutter; AWNS = adults who do not stutter. Percentages are calculated within groups. No statistically significant difference was detected in sex distribution, $\chi^2(1) = 1.297$, $p = 0.255$, Cramer's V = 0.101, or age-category distribution, $\chi^2(3) = 0.051$, $p = 0.997$, Cramer's V = 0.020. These tests do not establish statistical equivalence between groups.

2.2. Eligibility Criteria and Recruitment

Eligibility and group membership were determined from the online study form. Participants were classified as AWS or AWNS based on self-reported stuttering status; stuttering status was not independently verified through a clinical speech-language assessment or speech-sample analysis. Specifically, stuttering status was established using a single mandatory self-report question in the original online questionnaire: "Kekemeliğiniz var mı?" (English translation: "Do you stutter?"), with the response options "Evet" ("Yes") and "Hayır" ("No"). Participants answering "Yes" were classified as adults who stutter (AWS), while those answering "No" were classified as adults who do not stutter (AWNS). Accordingly, no percentage of syllables stuttered (%SS), clinician-rated stuttering-severity measure, or inter-rater reliability statistic was obtained in this study. Although self-report does not substitute for clinician-confirmed diagnosis or severity assessment, self-reported stuttering information has been used in large-scale stuttering research, and self-reported severity has shown strong agreement with clinician ratings (Boyce et al., 2022; Horton et al., 2024). For both groups, original eligibility also required age 18–60 years, native Turkish language, and self-reported absence of a diagnosed speech, language, cognitive, or neurological disorder; for AWS, stuttering was the exception. No independent fluency screening was performed for either group. Participants were recruited through social media, professional and WhatsApp groups, speech-language therapists, the Stutterers Association, and the institutions with which the researchers were affiliated.

2.3. Measures

2.3.1. Need for Social Approval Scale

The Need for Social Approval Scale (Karaşar & Öğülmüş, 2016) consists of 25 items rated on a five-point Likert scale and comprises three subscales: Sensitivity to the Judgments of Others (9 items), Social Withdrawal (8 items), and Making a Positive Impression (8 items). Representative item content includes concern that one's thoughts be approved by others (Sensitivity to the Judgments of Others), avoiding actions that others may disapprove of (Social Withdrawal), and concern about how one's behavior is evaluated by others (Making a Positive Impression). These dimensions are relevant to AWS because they capture approval-oriented concerns that may coexist with social-evaluative experiences surrounding communication, while remaining distinct from a diagnosis of social anxiety. Items are summed without reverse scoring. The theoretical score range is 25–125 for the total scale, 9–45 for Sensitivity to the Judgments of Others, and 8–40 for each of Social Withdrawal and Making a Positive Impression. Higher total or subscale scores indicate a greater degree of the corresponding approval-related tendency. The scale is interpreted dimensionally; the development study reports score direction but does not provide a validated diagnostic cut-off for classifying individuals as having a high or low need for social approval.

2.3.2. Protective Factors for Psychological Resilience Scale

The Protective Factors for Psychological Resilience Scale (PFRS; Harms et al., 2017; Turkish adaptation: Tanko et al., 2021) contains 15 items rated on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). It comprises three five-item subscales assessing Personal Resources, Peer Resources, and Family Resources. Representative items include "I believe in myself" for Personal Resources, "My friends are a great source of support" for Peer Resources, and "I feel accepted by my family" for Family Resources (Harms et al., 2017). The total score is calculated by summing all 15 items; no items are reverse scored. The theoretical score range is 15–105 for the total scale and 5–35 for each subscale. Higher scores indicate greater perceived protective resources in the corresponding domain. The PFRS is therefore interpreted here as a dimensional measure of resilience-related protective

resources rather than a direct diagnostic measure of psychological resilience; neither the original development study nor the Turkish adaptation provides a validated cut-off for classifying individuals as having "low resilience."

2.4. Data Collection and Ethical Considerations

Data were collected online between February and April 2024 using Google Forms (Google LLC; https://forms.google.com/). All participants provided electronic informed consent before completing the survey. Responses were screened for completeness, invariant response patterns (e.g., selecting the same response option for all items), and implausibly short completion times (<2 min); cases failing these quality checks were excluded from the source dataset. Data were collected anonymously without direct contact with participants. The study was approved by the Ethics Committee (Approval No. 24-04/2024).

2.5. Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics version 27 (IBM Corp., Armonk, NY, USA), with supplementary regression and bootstrap calculations used for the sensitivity analyses. Categorical variables were summarized using frequencies and percentages. Internal consistency was evaluated using Cronbach's alpha. Distributional assumptions for scale total and subscale scores were assessed separately within the AWS and AWNS groups using the Shapiro–Wilk test together with skewness and kurtosis statistics.

For between-group comparisons of social approval, the Mann–Whitney U test was used when at least one group showed evidence of non-normality on the Shapiro–Wilk test; the independent-samples t test was used for the total Need for Social Approval score because normality was not rejected in either group. Homogeneity of variance for the t test was assessed using Levene's test. Rank-biserial correlation was reported as the effect size for Mann–Whitney U tests, and Hedges' g was reported for the independent-samples t test. A 95% bootstrap confidence interval for Hedges' g was obtained from 10,000 resamples using a fixed random seed.

Because multiple PFRS scores were non-normally distributed in the AWS group, associations between the Need for Social Approval Scale and the PFRS were examined within AWS using two-tailed Spearman rank-order correlations. A 95% bootstrap confidence interval for the prespecified total-score Spearman correlation was obtained from 10,000 resamples. To evaluate the robustness of the 16 secondary cross-construct correlations to multiple testing, Holm-adjusted p values were calculated. In response to concerns about measured demographic confounding, two additional analyses were conducted: (1) an age-category- and sex-adjusted linear regression of total social approval in the final analytic sample using HC3 robust standard errors (both analyses reproduced using Python version 3.13.5 [Python Software Foundation, Beaverton, OR, USA] and [statsmodels version 0.14.6 https://www.statsmodels.org/], and (2) a sensitivity analysis repeating this adjusted model in all 151 eligible participants aged 18–49 years (69 AWS and 82 AWNS), thereby avoiding control-group subsampling. Within AWS, a partial Spearman correlation between the two total scores was also calculated controlling for age category and sex. Statistical significance was set at $p < 0.05$. These adjusted analyses address age and sex only. No clinician-rated stuttering-severity measure was collected, treatment history was not asked in the survey, and perceived stuttering impact and social anxiety were not assessed with dedicated measures; these variables therefore could not be included as covariates.

3. Results

3.1. Internal Consistency and Distributional Assumptions

Internal consistency was high for the Need for Social Approval Scale total score ($\alpha = 0.940$) and was also good for Sensitivity to the Judgments of Others ($\alpha = 0.853$), Social Withdrawal ($\alpha = 0.847$), and Making a Positive Impression ($\alpha = 0.879$). The Protective Factors for Psychological Resilience Scale total score showed good internal consistency ($\alpha = 0.889$); the coefficients for Personal Resources, Peer Resources, and Family Resources were 0.794, 0.853, and 0.914, respectively.

The total Need for Social Approval score did not significantly deviate from normality in either AWS ($W = 0.978$, $p = 0.255$) or AWNS ($W = 0.980$, $p = 0.468$). For each social approval subscale, however, at least one group showed a significant Shapiro–Wilk test. Several PFRS scores were also non-normally distributed, particularly in the AWS group. The complete normality results are shown in Table 2.

Table 2. Distributional characteristics and Shapiro–Wilk normality tests for study variables by group.

Variable	Group	W	p	Skewness	Kurtosis	Decision
Sensitivity to the Judgments of Others	AWS	0.958	0.022	−0.807	0.754	Non-normal
Social Withdrawal	AWS	0.978	0.272	0.155	−0.496	Normal
Making a Positive Impression	AWS	0.964	0.047	−0.419	−0.624	Non-normal
Need for Social Approval Total	AWS	0.978	0.255	−0.381	−0.250	Normal
Personal Resources	AWS	0.930	<0.001	−0.940	0.652	Non-normal
Peer Resources	AWS	0.954	0.013	−0.725	0.389	Non-normal
Family Resources	AWS	0.846	<0.001	−1.249	1.041	Non-normal
Protective Factors for Psychological Resilience Total	AWS	0.931	<0.001	−0.986	0.761	Non-normal
Sensitivity to the Judgments of Others	AWNS	0.973	0.223	−0.136	−0.580	Normal
Social Withdrawal	AWNS	0.954	0.028	0.685	0.217	Non-normal
Making a Positive Impression	AWNS	0.983	0.578	0.231	−0.325	Normal
Need for Social Approval Total	AWNS	0.980	0.468	0.352	−0.209	Normal
Personal Resources	AWNS	0.958	0.046	−0.616	0.332	Non-normal
Peer Resources	AWNS	0.907	<0.001	−1.075	1.317	Non-normal
Family Resources	AWNS	0.728	<0.001	−2.124	4.726	Non-normal
Protective Factors for Psychological Resilience Total	AWNS	0.929	0.002	−1.147	2.370	Non-normal

Note: W = Shapiro–Wilk statistic; AWS = adults who stutter; AWNS = adults who do not stutter. A two-sided $p < 0.05$ indicates a statistically significant departure from normality. Skewness and kurtosis are reported as complementary descriptive indices.

3.2. Need for Social Approval in AWS and AWNS

AWS scored significantly higher than AWNS on all three dimensions of the Need for Social Approval Scale. Sensitivity to the Judgments of Others was higher in AWS (median = 32, IQR = 27–36) than in AWNS (median = 29, IQR = 24–33), $U = 1411.0$, $Z = -2.724$, $p = 0.006$, rank-biserial $r = 0.282$. Social Withdrawal was also higher in AWS (median = 21, IQR = 17–26) than in AWNS (median = 18, IQR = 14–22), $U = 1399.0$, $Z = -2.784$, $p = 0.005$, rank-biserial $r = 0.289$. Similarly, Making a Positive Impression was higher in AWS (median = 25, IQR = 19–31) than in AWNS (median = 21, IQR = 18–26), $U = 1440.5$, $Z = -2.579$, $p = 0.010$, rank-biserial $r = 0.267$.

For the total Need for Social Approval score, the assumptions for an independent-samples t test were acceptable; Levene's test was non-significant ($F = 2.495$, $p = 0.117$). AWS had a higher total social approval score ($M = 76.90$, $SD = 18.93$) than AWNS ($M = 67.75$, $SD = 16.10$), $t(124) = 2.885$, $p = 0.005$. The mean difference was 9.14 points (95% CI [2.87,

15.42]), corresponding to Hedges' g = 0.513 with a bootstrap 95% CI [0.17, 0.91]. Group comparisons are summarized in Table 3.

Table 3. Between-group comparisons of Need for Social Approval Scale scores.

Scale/Domain	AWS	AWNS	Test Statistic	*p*	Effect Size	Analysis
Sensitivity to the Judgments of Others	Md 32 [27–36]	Md 29 [24–33]	U = 1411.0	0.006	r_rb = 0.282	Mann–Whitney U
Social Withdrawal	Md 21 [17–26]	Md 18 [14–22]	U = 1399.0	0.005	r_rb = 0.289	Mann–Whitney U
Making a Positive Impression	Md 25 [19–31]	Md 21 [18–26]	U = 1440.5	0.010	r_rb = 0.267	Mann–Whitney U
Need for Social Approval Total	76.90 ± 18.93	67.75 ± 16.10	t(124) = 2.885	0.005	g = 0.513; 95% CI [0.17, 0.91]	Independent-samples *t* test

Note: AWS = adults who stutter; AWNS = adults who do not stutter; Md = median; IQR = interquartile range; r_rb = rank-biserial correlation; g = Hedges' g. Subscale scores are presented as Md [IQR] and were compared using Mann–Whitney U tests. Total scores are presented as mean ± standard deviation and were compared using an independent-samples *t* test. All p values are two-sided. The bootstrap 95% CI for the primary Hedges' g was [0.17, 0.91].

3.3. Relationship Between Social Approval and Resilience-Related Protective Factors in AWS

Within the AWS group ($n = 69$), the total Need for Social Approval score was moderately and negatively correlated with the total PFRS score (Spearman $\rho = -0.429$, unadjusted $p < 0.001$; bootstrap 95% CI [−0.620, −0.192]; Holm-adjusted $p = 0.003$). Thus, greater need for social approval was associated with fewer perceived resilience-related protective resources.

At the unadjusted level, the total Need for Social Approval score was negatively associated with Personal Resources ($\rho = -0.482$, $p < 0.001$), Peer Resources ($\rho = -0.249$, $p = 0.039$), and Family Resources ($\rho = -0.289$, $p = 0.016$). After Holm correction across the 16 cross-construct correlations, the associations of total social approval with Personal Resources (adjusted $p < 0.001$) and with the total PFRS score (adjusted $p = 0.003$) remained statistically significant, whereas the associations with Peer and Family Resources did not. The complete cross-construct correlation results are presented in Table 4.

Table 4. Spearman correlations between need for social approval and resilience-related protective factors in AWS ($n = 69$).

Social Approval Variable	Resilience-Related Protective Factors	ρ	Raw *p*	Holm-Adjusted *p*	Significant After Holm
Sensitivity to the Judgments of Others	Personal Resources	−0.355	0.003	0.028	Yes
Sensitivity to the Judgments of Others	Peer Resources	−0.112	0.358	0.358	No
Sensitivity to the Judgments of Others	Family Resources	−0.254	0.035	0.172	No
Sensitivity to the Judgments of Others	Protective Factors for Psychological Resilience Total	−0.297	0.013	0.105	No
Social Withdrawal	Personal Resources	−0.531	<0.001	<0.001	Yes

Table 4. *Cont.*

Social Approval Variable	Resilience-Related Protective Factors	ρ	Raw *p*	Holm-Adjusted *p*	Significant After Holm
Social Withdrawal	Peer Resources	−0.323	0.007	0.062	No
Social Withdrawal	Family Resources	−0.262	0.030	0.172	No
Social Withdrawal	Protective Factors for Psychological Resilience Total	−0.479	<0.001	<0.001	Yes
Making a Positive Impression	Personal Resources	−0.475	<0.001	<0.001	Yes
Making a Positive Impression	Peer Resources	−0.204	0.093	0.185	No
Making a Positive Impression	Family Resources	−0.263	0.029	0.172	No
Making a Positive Impression	Protective Factors for Psychological Resilience Total	−0.401	<0.001	0.007	Yes
Need for Social Approval Total	Personal Resources	−0.482	<0.001	<0.001	Yes
Need for Social Approval Total	Peer Resources	−0.249	0.039	0.172	No
Need for Social Approval Total	Family Resources	−0.289	0.016	0.113	No
Need for Social Approval Total	Protective Factors for Psychological Resilience Total	−0.429	<0.001	0.003	Yes

Note: AWS = adults who stutter; ρ = Spearman rank-order correlation coefficient. Raw *p* values are two-sided. Holm-adjusted *p* values account for the 16 cross-construct correlations; Holm-adjusted $p < 0.05$ was considered statistically significant in the multiplicity sensitivity analysis. The bootstrap 95% CI for the prespecified total-score correlation was [−0.620, −0.192].

3.4. Adjusted and Sensitivity Analyses

In the final analytic sample ($n = 126$), the between-group difference in total need for social approval remained after adjustment for age category and sex using linear regression with HC3 robust standard errors (AWS coefficient B = 9.09, 95% CI [2.65, 15.52], $p = 0.006$). As a sensitivity analysis, the same model was repeated using all 151 eligible participants aged 18–49 years, including all 82 eligible AWNS rather than the selected subsample. The adjusted association remained significant and of similar magnitude (B = 8.50, 95% CI [1.99, 15.02], $p = 0.011$). Within AWS, the partial Spearman association between total need for social approval and total PFRS score also remained negative after controlling for age category and sex (partial ρ = −0.403, bootstrap 95% CI [−0.606, −0.154], $p < 0.001$).

4. Discussion

The present study examined the need for social approval in AWS and AWNS and the association between social approval and resilience-related protective factors within AWS. Two principal findings emerged. First, AWS reported a significantly higher total need for social approval than AWNS, with a moderate between-group effect (Hedges' g = 0.513, bootstrap 95% CI [0.17, 0.91]). The same direction of difference was observed across all three social approval dimensions, with rank-biserial effect sizes in the small-to-moderate range. Second, within AWS, total need for social approval was moderately and inversely associated with total resilience-related protective factors (Spearman ρ = −0.429, bootstrap 95% CI [−0.620, −0.192]), and this association remained significant after Holm correction. The

age- and sex-adjusted analyses, including the sensitivity analysis using all eligible AWNS, produced results in the same direction. No statistically significant age- or sex-distribution differences were detected in the final analytic sample, but these tests are not evidence of demographic equivalence and residual confounding remains possible.

4.1. Need for Social Approval in Adults Who Stutter

The higher total need for social approval observed in AWS is consistent with a broader literature showing that social-evaluative concerns are especially relevant to the psychosocial experience of persistent stuttering. This does not mean that the need for social approval is interchangeable with social anxiety or fear of negative evaluation. The constructs overlap, but the Need for Social Approval Scale specifically captures the importance assigned to others' approval and includes withdrawal-related tendencies and favorable self-presentation. Messenger et al. (2004) reported greater negative social expectancies in AWS, and a meta-analysis found substantially elevated social anxiety at the group level in adults with chronic stuttering (Craig & Tran, 2014). The present finding for Sensitivity to the Judgments of Others is also compatible with evidence that negative evaluation is experienced heterogeneously across AWS. Brundage et al. (2017) found judgment bias particularly among AWS with higher fear of negative evaluation rather than uniformly across the group.

Differences in fear of negative evaluation may therefore reflect broader psychosocial heterogeneity among adults who stutter rather than observable stuttering severity alone. AWS with social anxiety disorder have been shown to report greater avoidance of speaking situations and broader psychological difficulties than AWS without social anxiety disorder, despite not showing greater stuttering severity; multilevel evidence likewise indicates that overall stuttering impact, avoidance behaviors, and personality characteristics contribute to social anxiety beyond observable severity (Iverach et al., 2018; Lei et al., 2024a). Stigma-related experiences provide an additional context. Boyle (2018) documented enacted and anticipated stigma among AWS; Boyle et al. (2023) found that self-stigma-related variables explained unique variance in communicative participation and mental health; and Gerlach et al. (2021) reported that concealment of stuttering was strongly related to psychological distress. These findings provide plausible contexts for why others' evaluations may carry greater weight for some AWS, but the present study did not measure these proposed explanatory factors and therefore cannot determine which processes account for the observed group difference.

The higher Social Withdrawal scores in AWS are also consistent with evidence linking stuttering-related social anxiety to avoidance and reduced engagement in speaking situations. In a large clinical sample, adults who stutter with social anxiety disorder reported greater avoidance of speaking situations and more psychological difficulties than those without social anxiety disorder, despite not showing greater stuttering severity (Iverach et al., 2018). Similarly, everyday-life data indicate that trait social anxiety and the perceived characteristics of social situations influence the emotional experience of stuttering (Lei et al., 2024b). In the present study, however, Social Withdrawal was measured as a dimension of social approval need; it should therefore not be interpreted as a direct measure of actual social participation or a diagnosis of social anxiety disorder.

The difference in Making a Positive Impression may reflect another facet of social-evaluative concern. Contemporary cognitive accounts of social anxiety in stuttering emphasize self-focused attention, safety behaviors, and negative self-imagery as processes that can become salient in socially evaluative situations (Lowe et al., 2017, 2021). Swift et al. (2024) found that higher social anxiety was associated with greater self-focused attention, safety behavior use, and negative self-imagery, with an additional stuttering-related effect for negative self-imagery. Concealment may overlap with this broader concern about self-

presentation but is not equivalent to it. Gerlach et al. (2021) found concealment to be an important stigma-identity correlate of psychological distress in AWS, while Gerlach-Houck and Cage (2025) described concealment as a dynamic, context-dependent process that can involve linguistic, speaking-mechanics, situational, and self-presentation strategies. The present finding is therefore compatible with the possibility that favorable impression management is more salient for AWS at the group level; however, the current scale did not directly assess safety behaviors, concealment, or self-imagery, so these mechanisms remain hypotheses for future research rather than explanations established by the present data.

Taken together, the three subscale findings suggest that the between-group difference was not driven by a single narrow component of the social approval construct. AWS scored higher in sensitivity to others' judgments, withdrawal-related tendencies, and favorable-impression concerns. At the same time, the effect sizes were not large enough to support a categorical distinction between groups, and substantial individual overlap should be expected. The findings are therefore best interpreted as a group-level difference in the degree of approval-oriented social concern rather than evidence that a high need for social approval is an inherent characteristic of stuttering.

4.2. Relationship Between Social Approval and Resilience-Related Protective Factors

The second primary finding was the moderate negative association between total need for social approval and total resilience-related protective factors within AWS. This relationship remained significant after adjustment for multiple testing, and the age- and sex-adjusted partial Spearman analysis showed a similar negative association. The direction is consistent with previous work suggesting that resilience is more closely related to the subjective and psychosocial experience of stuttering than to overt speech severity. Freud and Amir (2020) reported a strong association between resilience and the overall impact of stuttering measured by the Overall Assessment of the Speaker's Experience of Stuttering-Adult (OASES-A), while finding no significant association between resilience and observer-rated stuttering severity. Plexico et al. (2019) likewise found that resilience was relevant to self-acceptance and satisfaction with life in adults who stutter. These prior findings provide a conceptual context for the present association but do not establish a causal mechanism for the current data.

A recent study provides additional, although conceptually distinct, evidence for a relationship between socially oriented psychological experiences and resilience in AWS. Şen and Kocabıyık (2026) found that AWS scored higher than AWNS on the social dimension of fear of missing out and that fear of missing out was negatively correlated with psychological resilience in both groups. Fear of missing out and need for social approval are not equivalent constructs, but both involve sensitivity to social connection and evaluation. The convergence in direction across these different constructs strengthens the rationale for investigating resilience together with social-evaluative variables in adults who stutter.

The secondary correlation pattern in the present study adds an important nuance. Personal Resources was the only PFRS subdomain that remained significantly associated with all four social approval variables after Holm correction. Social Withdrawal and Making a Positive Impression also retained significant associations with the total PFRS score, whereas the correlations involving Peer Resources and Family Resources did not remain significant after multiplicity adjustment. Accordingly, the most stable secondary pattern in these data concerns personal protective resources rather than the peer- or family-specific domains. This finding may indicate that approval-oriented concerns are particularly related to intrapersonal resilience resources; however, the cross-sectional design does not establish directionality, and the stronger statistical pattern for Personal Resources should not be interpreted as evidence of a causal mechanism.

The loss of significance for several peer and family associations after Holm correction is also important. Reporting only the unadjusted p values would overstate the consistency of these secondary findings. The present results therefore support a robust association between overall social approval need and overall resilience-related protective factors, and a particularly consistent relationship with Personal Resources, while providing weaker evidence for specific peer and family pathways. Future studies with larger samples should test these domain-specific relationships as prespecified hypotheses rather than relying on multiple exploratory correlations.

4.3. Clinical Implications

The findings support a broader psychosocial perspective in the assessment of adults who stutter. Speech disfluency alone may not capture the extent to which an individual is concerned about social evaluation, withdraws from social situations, or depends on external approval. This is consistent with evidence that adults who stutter with clinically significant social anxiety can experience greater avoidance and psychological difficulty without necessarily exhibiting greater stuttering severity (Iverach et al., 2018), and with findings that resilience is associated with subjective stuttering impact rather than overt severity (Freud & Amir, 2020). Assessment may therefore benefit from considering social-evaluative concerns and psychological resources alongside conventional speech measures when clinically indicated.

These results do not justify treating need for social approval as a disorder, nor do they show that reducing approval needs will increase resilience. Clinical decisions should be individualized. For AWS who also present with clinically significant social anxiety, avoidance, or related cognitive-behavioral difficulties, evidence supports addressing these concerns directly rather than assuming that improvements in fluency alone will resolve them. In a randomized clinical trial, Menzies et al. (2008) found that a cognitive-behavioral therapy package produced sustained improvements in social anxiety and avoidance-related psychological functioning but did not improve fluency itself. Lowe et al. (2021) subsequently emphasized the need to coordinate speech and anxiety management because some speech-control strategies may interact with self-focused attention or safety behaviors. The present findings are compatible with such multidimensional care, while not testing any intervention directly.

The association with resilience-related resources may also be clinically relevant, particularly with respect to personal resources. Prior research has linked resilience with self-acceptance and life satisfaction in AWS (Plexico et al., 2019). Nevertheless, resilience-focused intervention recommendations should remain tentative because the present study was observational. Longitudinal and intervention studies are needed to determine whether changes in resilience precede changes in approval-oriented concerns, whether the reverse occurs, or whether both respond to broader changes in social anxiety, stigma, self-acceptance, or communication participation.

4.4. Strengths, Limitations, and Future Directions

Several features strengthen the transparency of the present findings. First, the final analytic sample was constructed without reference to any social approval or PFRS responses or scores. The sampling procedure reduced the marked age and sex imbalance in the eligible group pool while retaining the prespecified minimum total sample size. Importantly, non-significant demographic tests were not treated as proof of equivalence. Second, both instruments demonstrated good-to-high internal consistency in the final analytic sample. Third, the use of nonparametric procedures where distributional assumptions were not met, effect-size reporting with confidence intervals, Holm adjustment of secondary correlations,

age- and sex-adjusted models, and a sensitivity analysis using all eligible controls provided a more conservative and transparent evaluation of the findings.

The study nevertheless has several limitations. Its cross-sectional design prevents conclusions about causal direction or intervention targets. The principal constructs were assessed by self-report within the same online survey, which may introduce shared-method variance. Stuttering status in both groups was based on participant self-report and was not independently verified through a clinical speech-language assessment or speech-sample analysis. Consequently, no %SS value, clinician-rated stuttering-severity measure, or inter-rater reliability statistic was available, and severity-adjusted models could not be performed. Although self-reported stuttering information has precedent in large-scale stuttering research and self-reported severity has shown strong correspondence with clinician ratings (Boyce et al., 2022; Horton et al., 2024), the absence of independent clinical verification means that some degree of group misclassification cannot be excluded. Treatment history was not collected. Perceived stuttering impact, socioeconomic characteristics, and clinically assessed social anxiety were also unavailable as covariates. The similar findings obtained after adjustment for age and sex and in the sensitivity analysis including all eligible comparison participants increase confidence that the observed associations were not driven solely by measured demographic imbalance. Nevertheless, residual confounding remains possible because clinician-rated stuttering severity, treatment history, perceived stuttering impact, and social anxiety were not available for adjustment.

Several PFRS scores were markedly non-normally distributed, particularly Family Resources. Spearman correlations were therefore appropriate, but distributional restriction may still influence the magnitude and detectability of domain-specific associations. The sample size was also modest for the set of secondary cross-construct correlations, as illustrated by the fact that several unadjusted associations did not remain significant after Holm correction. Larger, preregistered studies should prioritize a smaller set of primary hypotheses and include validated measures of social anxiety, fear of negative evaluation, stigma, and communicative participation. Longitudinal designs would be especially valuable for clarifying temporal ordering and for determining whether resilience modifies the relationship between social-evaluative processes and the lived impact of stuttering.

Overall, the present study extends the psychosocial literature on adult stuttering by showing a moderate group-level difference in need for social approval and an inverse association between social approval and resilience-related protective resources within AWS. These patterns were robust to adjustment for measured age and sex and to a sensitivity analysis using all eligible controls. The findings should nevertheless be interpreted as associations rather than evidence of causal pathways, intrinsic characteristics of stuttering, or treatment targets. They support further longitudinal and multivariable investigation of social approval and resilience-related resources within multidimensional models of adult stuttering.

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