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Psychological Resilience and Well-Being in Adolescents: Indirect Associations through Empathy and Expressive Communication

Ergenlerde Psikolojik Sağlamlık ve İyi Oluş: Empati ve İfade Edici İletişim Aracılığıyla Dolaylı İlişkiler

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ABSTRACT

Objective: This study investigated whether empathy and expressive communication account for the association between psychological resilience and psychological well-being among adolescents.

Method: The participants were 722 secondary school students (Mage = 16.77, SD = 1.07; 59.43% girls) from Türkiye who completed self-report measures of psychological resilience, empathy, expressive communication, and psychological well-being. A serial mediation model was tested to examine both independent and sequential indirect associations.

Results: Psychological resilience was positively associated with psychological well-being through both direct (B = .24, 95% CI [.16, .33]) and indirect (B = .25, 95% CI [.19, .31]) associations. Both empathy (B = .06, 95% CI [.03, .10]) and expressive communication (B = .14, 95% CI [.10, .19]) independently accounted for this association. A significant sequential indirect association was also observed (B = .05, 95% CI [.03, .08]), whereby resilience was associated with greater empathy, which in turn was related to stronger expressive communication and higher well-being.

Conclusion: These findings suggest that the association between resilience and well-being is partly explained by interconnected socioemotional processes that link internal coping resources with interpersonal functioning.

Keywords: Psychological resilience, well-being, adolescence, empathy, expressive communication, serial mediation model

ÖZ

Amaç: Bu çalışmada, ergenlerde psikolojik sağlamlık ile psikolojik iyi oluş arasındaki ilişkide empati ve ifade edici iletişimin açıklayıcı bir role sahip olup olmadığı incelenmiştir.

Yöntem: Araştırmaya Türkiye'den 722 ortaöğretim öğrencisi (Myaş = 16.77, SS = 1.07; %59.43 kız) katılmıştır. Katılımcılar psikolojik sağlamlık, empati, ifade edici iletişim ve psikolojik iyi oluş ölçeklerini doldurmuştur. Bağımsız ve sıralı dolaylı ilişkileri incelemek amacıyla seri aracılık modeli test edilmiştir.

Bulgular: Psikolojik sağlamlık, hem doğrudan (B = .24, %95 GA [.16, .33]) hem de dolaylı (B = .25, %95 GA [.19, .31]) ilişkiler aracılığıyla psikolojik iyi oluş ile pozitif yönde ilişkili bulunmuştur. Hem empati (B = .06, %95 GA [.03, .10]) hem de ifade edici iletişim (B = .14, %95 GA [.10, .19]) bağımsız olarak bu ilişkiyi açıklamıştır. Anlamlı bir sıralı dolaylı ilişki de gözlemlenmiştir (B = .05, %95 GA [.03, .08]); buna göre sağlamlık daha yüksek empati ile, bu da sırasıyla daha güçlü ifade edici iletişim ve daha yüksek iyi oluş ile saptanmıştır.

Sonuç: Bulgular, psikolojik sağlamlık ile psikolojik iyi oluş arasındaki ilişkinin, içsel başa çıkma kaynaklarını kişilerarası işlevsellikle ilişkilendiren birbirine bağlı sosyo-duygusal süreçlerle kısmen açıklanabileceğini göstermektedir.

Anahtar sözcükler: Psikolojik sağlamlık, iyi oluş, ergenlik, empati, ifade edici iletişim, seri aracılık modeli

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Introduction

Adolescence is a period of rapid psychological and social change, during which young people face mounting academic demands, shifting peer dynamics, and growing uncertainty about their future trajectories (Pascoe et al. 2020). These pressures draw on adolescents' emotional and interpersonal resources in ways that can either support or undermine their psychological well-being. Indeed, psychological well-being in adolescence is increasingly recognized not only as an indicator of positive functioning but also as a protective factor against internalizing difficulties, including depressive symptoms, emotional dysregulation, and maladaptive responses to stress (Suldo et al. 2011). Poor well-being during this developmental window has been associated with increased risk for depression, anxiety, and psychosocial maladjustment, which underscores the importance of identifying what supports or erodes it across diverse contexts (Klimstra and Denissen 2017).

Ryff's (1989) multidimensional model defines psychological well-being in terms of six interrelated dimensions: autonomy, environmental mastery, personal growth, purpose in life, self-acceptance, and positive relationships with others. During adolescence, these dimensions are reflected in the capacity to sustain motivation, regulate emotions, build meaningful relationships, and maintain a coherent sense of self. Research consistently links better well-being to more adaptive coping, stronger social functioning, and greater life satisfaction (Azpiazu-Izaguirre et al. 2021, Luo et al. 2023), whereas lower well-being is associated with disengagement, internalizing symptoms, and heightened vulnerability to stress (Fredricks et al. 2004, Suldo et al. 2011).

Although adolescence is characterized by inherent vulnerability, heightened emotional sensitivity, identity exploration, and social evaluation, it also provides a critical window for the development of adaptive psychological and interpersonal capabilities (Dumas et al. 2012, Klimstra and Denissen 2017). Importantly, psychological well-being during this period is not fixed; it is shaped by modifiable personal and social resources (Usán-Supervía et al. 2022). Among these, psychological resilience has received considerable attention as a key factor supporting positive adaptation under adverse conditions. The bulk of existing research, however, has focused on the direct link between resilience and well-being, leaving less explored the interpersonal processes through which this association may be realized. This is a meaningful gap, given that adolescence is a period in which social interactions are critical to psychological development.

Understanding the socioemotional mechanisms linking resilience to well-being is also relevant for preventive mental health efforts. Empathy and expressive communication are not simply markers of healthy development; their impairment is implicated across a range of adolescent difficulties, from peer rejection and social withdrawal to the internalization of psychopathology (Fink and de Rosnay 2023). Resilience, in turn, has been described as a transdiagnostic protective factor that buffers against stress-related difficulties rather than any single symptom cluster (Davydov et al. 2010, Southwick et al. 2014). Understanding how these processes connect may help clarify not only the structure of adolescent well-being but also the socioemotional targets most relevant for early intervention.

The present study addresses this gap by examining whether empathy and expressive communication account for the association between resilience and well-being among adolescents. Here, empathy is conceptualized as an emotional and cognitive capacity for sensitivity to others' experiences, whereas expressive communication refers to the capacity to articulate one's thoughts and feelings in social interactions. By examining both independent and sequential indirect pathways within a single model, this study aims to clarify how intrapersonal coping resources and interpersonal competencies jointly contribute to adolescent well-being rather than treating resilience as a purely internal resource disconnected from social life.

During adolescence, the ability to maintain stable psychological functioning under mounting demands depends substantially on coping resources. Psychological resilience, broadly defined as the capacity to adapt effectively in the face of adversity or ongoing stress (Hertzig and Farber 2013, Masten 2025), represents one such resource. Rather than reflecting an absence of vulnerability, resilience involves flexible regulation, recovery from setbacks, and the sustained capacity to function under pressure (Martin

and Marsh 2006). Developmental perspectives position resilience as a dynamic process shaped by both individual dispositions and contextual conditions (Masten and Barnes 2018), and recent theoretical work underscores its relevance as a transdiagnostic protective factor that appears to buffer against a range of stress-related and internalizing difficulties rather than any single symptom cluster (Davydov et al. 2010, Southwick et al. 2014).

This protective function is most clearly visible in the association between resilience and well-being. While well-being reflects the quality of psychological functioning, including autonomy, relational competence, and personal growth (Ryff 1989), resilience can be understood as the regulatory capacity that helps sustain this functioning when circumstances become demanding (Southwick et al. 2014, Fiorilli et al. 2017, Masten and Barnes 2018). Empirical research consistently documents a positive association between resilience and well-being in adolescent samples (Lin et al. 2021, Arslan and Coskun 2023). Adolescents with higher resilience tend to report greater life satisfaction, more effective coping, and stronger interpersonal functioning (Sagone and De Caroli 2014, Freire et al. 2019). Despite the strength of this association, relatively little attention has been given to the specific processes through which it is realized, particularly in the interpersonal domain. The present study builds on this foundation by examining whether empathy and expressive communication account for part of this association. Accordingly, the following hypothesis is proposed:

H1. Psychological resilience is positively associated with psychological well-being.

Adolescents' psychological well-being is closely tied to the quality of their interpersonal experiences, and empathy plays an important role in shaping those experiences. Defined as the dispositional capacity to recognize, understand, and respond to others' emotional states, empathy supports perspective-taking, emotional attunement, and prosocial behavior, each of which becomes increasingly salient as peer relationships grow in importance during adolescence (Van der Graaff et al. 2016). Adolescents with stronger empathic capacities tend to form more trusting and supportive relationships, which reinforces the dimensions of well-being that depend on relational experience, including a sense of belonging, emotional stability, and positive relationships with others (Ryff 1989, Zhu and Shek 2021, Fink and de Rosnay 2023).

Empathy is not merely an outcome of positive social experience; it can also be constrained by stress. When adolescents are overwhelmed by their own distress, attentional and regulatory resources tend to be directed inward, reducing their sensitivity to others (Romeo 2017). Resilience may work against this dynamic. Adolescents who are relatively resilient tend to regulate their emotional responses more effectively and maintain cognitive flexibility under pressure (Tugade and Fredrickson 2004, Masten and Barnes 2018), freeing them of resources for other-oriented processing. In contrast, lower resilience may sustain elevated stress reactivity in ways that limit empathic engagement. These findings point to a plausible indirect pathway in which resilience is associated with well-being partly through its relationship with empathic responsiveness (Martín Quintana et al. 2023). Importantly, empathic deficits have been linked to social withdrawal, peer rejection, and elevated internalizing symptoms during adolescence, outcomes that directly threaten psychological well-being and are clearly relevant for mental health prevention (Fink and de Rosnay 2023). Accordingly, the following hypothesis is proposed:

H2. Psychological resilience is indirectly associated with psychological well-being through empathy.

Expressive communication, understood here as the capacity to clearly articulate thoughts and emotions in interpersonal contexts, is closely linked to adolescents' psychological functioning. Adolescents who can express themselves effectively and interpret others' responses accurately are better positioned to establish supportive relationships, manage interpersonal conflict, and develop a sense of social competence (Laursen et al. 2012). These experiences, in turn, contribute to core dimensions of well-being, including environmental mastery, self-acceptance, and a sense of belonging. Stronger expressive communication skills are associated with greater social integration and higher levels of psychological adjustment among adolescents (Salmela-Aro and Upadyaya 2020). Conversely, communication deficits are associated with interpersonal difficulties and emotional distress, outcomes that are directly relevant for mental health prevention in adolescence (Laursen et al. 2012).

Beyond its association with well-being, expressive communication may also reflect how resilience is enacted in social contexts. Resilient adolescents tend to engage in more approach-oriented coping strategies, including seeking support, discussing difficulties, and participating constructively in problem-solving rather than withdrawing or avoiding (Frolova et al. 2019). In contrast, lower resilience is more commonly associated with social disengagement and avoidant interpersonal strategies. From this perspective, expressive communication might be understood as one way in which internal regulatory capacity becomes observable in social behavior. By facilitating access to support and enabling constructive interaction, expressive communication may partly account for why more resilient adolescents report better psychological well-being (Arslan et al. 2021, Luo et al. 2023). Notably, this pathway may function independently of empathy, since adolescents can have an emotional awareness of others' experiences while still varying considerably in how effectively they express their own. Accordingly, the following hypothesis is proposed:

H3. Psychological resilience is indirectly associated with psychological well-being through expressive communication.

Although empathy and expressive communication each have independent links to adolescent well-being, there are theoretical grounds for expecting a sequential relationship between them as well. Empathy involves recognizing and understanding others' emotional states, whereas expressive communication involves translating one's internal experience, including any empathic understanding, into verbal and nonverbal action. In this sense, empathy can be thought of as informing the quality of communication: adolescents who are more attuned to the emotional dynamics of an interaction are better equipped to respond in ways that feel appropriate and constructive (De Wied et al. 2007, Van der Graaff et al. 2014). Without that empathic basis, communication may be technically fluent but miss the relational register that matters. Even when empathic understanding is present, limited expressive capacity can prevent that understanding from being communicated effectively (Haag et al. 2024).

The decision to order empathy prior to expressive communication, rather than the reverse, draws on models of social-emotional skill that distinguish internally oriented, receptive capacities from externally oriented, expressive ones. Riggio's (1986) framework of basic social skills, for example, separates emotional sensitivity, the capacity to accurately perceive and interpret others' emotional states, from emotional expressivity, the capacity to transmit one's own emotional and verbal content to others, and treats the former as informing the latter rather than the reverse. Empathy maps most closely onto this receptive, sensitivity-oriented capacity, while expressive communication maps onto the transmission-oriented capacity, which provides the primary rationale for the ordering adopted here. Moreover, the reverse pathway is not without theoretical support: experimental work on interpersonal accuracy suggests that direct communicative exchange, rather than silent inference alone, can improve the accuracy of one's understanding of another person's internal states (Eyal et al. 2018), raising the plausible alternative that expressive communication could itself sharpen empathic understanding rather than simply following from it. Rather than treating these two orderings as mutually exclusive, the present model treats the empathy-to-communication direction as the more parsimonious starting hypothesis given the sensitivity-to-expressivity logic outlined above, while explicitly acknowledging that a reciprocal or reverse-ordered relationship could not be tested with the present cross-sectional data; formal comparison of competing directional and nonrecursive specifications was beyond the scope of the current study but represents a natural next step once longitudinal or experimental data become available.

In the context of resilience, this sequential logic is particularly relevant. Adolescents who regulate their emotions effectively under stress are more likely to remain open to others' perspectives, a precondition for empathic engagement (Tugade and Fredrickson 2004, Masten and Barnes 2018, Haag et al. 2024). That is, empathic openness may, in turn, support more effective expressive communication in social interactions, ultimately contributing to better psychological well-being. Modeling these processes sequentially may capture a layered pathway in which internal coping resources are related to social functioning through emotionally grounded interpersonal behavior (Van der Graaff et al. 2016). This framework is consistent with emotion regulation theories that describe how regulatory capacity enables adaptive social behavior across multiple levels of processing (Gross 2015). Notably, this ordering is

theoretically derived; communication could plausibly precede empathy, or both processes may codevelop simultaneously. Treating them as serial rather than merely parallel mediators adds conceptual specificity to existing models, but empirical tests of alternative orderings remain important for future research. Accordingly, the following hypothesis is proposed:

H4. Psychological resilience is indirectly associated with psychological well-being through the serial pathway of empathy followed by expressive communication.

Collectively, the four hypotheses address both the independent and sequential roles of empathy and expressive communication in the association between resilience and adolescent well-being. By integrating these pathways within a single model, this study aims to clarify how internal coping resources are related to well-being through socioemotional processes that unfold in interpersonal contexts.

Method

Sample

This study employed a cross-sectional survey design to examine the associations among psychological resilience, empathy, expressive communication, and psychological well-being among adolescents. The participants were 722 secondary school students aged between 15 and 18 years (M = 16.77, SD = 1.07) who were recruited from two private colleges in the inner-western Anatolian region of Türkiye using convenience sampling. To recruit the sample, the researchers formally approached the administrations of both institutions, and institutional permission was granted by the school directorates prior to data collection. The participating schools were private educational institutions offering both Anatolian High School and Science High School programs and primarily serving students from middle- to high-socioeconomic backgrounds within the urban district. Among the participants, 429 (59.43%) identified as girls and 293 (40.57%) as boys. The sample included students from 9th grade (20.1%), 10th grade (16.4%), 11th grade (30.3%), and 12th grade (33.2%). The majority of participants (79.1%) reported that their parents were married; 20.9% reported having divorced parents.

Procedure

Data were collected at the classroom level during regular school hours. All students present on the day of data collection were invited to participate voluntarily. Students were eligible to participate if they were enrolled in one of the participating schools, were between 15 and 18 years of age, and provided written parental consent together with their own assent. A total of 779 eligible students were approached across the participating schools. Of these, 19 students did not participate because of absence on the day of administration, and five students refused to give personal assent, resulting in the collection of 755 questionnaires. However, 33 cases were removed during the initial data screening, including five cases due to incomplete responses and 28 cases identified as multivariate outliers, resulting in a final analytical sample of 722 participants.

The questionnaires were administered in paper-and-pencil format by the first author during regular classroom sessions. Participants completed the measures individually following standardized instructions, and no identifying information was collected. The survey took approximately 15–20 minutes to complete. An a priori power analysis was conducted using G*Power (v.3.1; Faul et al. 2009) to determine the required sample size for detecting a medium effect size ($f^2 = 0.15$) with three predictors, $\alpha = .05$, and a statistical power of .95. The analysis indicated a minimum sample size of 134; the final sample of 722 substantially exceeded this requirement, indicating adequate statistical power.

The study was approved by the Girne American University Corporate Assessment Committee (Approval No: 9/23-138; Approval Date: 20 September 2023). Written parental consent and student assent were obtained prior to participation, and all procedures were conducted in accordance with relevant ethical standards.

Measures

Brief Resilience Scale

Psychological resilience was assessed using the Brief Resilience Scale (Smith et al. 2008, Doğan 2015). The scale consists of six items (e.g., "I can pick myself up quickly after hard times") rated on a five-point Likert scale (1 = not appropriate at all, 5 = completely appropriate), with higher scores indicating greater resilience. The internal consistency in the present study was acceptable (α = .83, ω = .84, $\lambda 6$ = .82). Confirmatory factor analysis (CFA) supported the hypothesized single-factor structure (χ^2/df = 2.48, CFI = .96, TLI = .94, RMSEA = .06, SRMR = .04).

Empathic Tendency Scale

Empathy was measured using the Empathic Tendency Scale (Dökmen 1988). The scale includes 20 items (e.g., "Those who tell me that their troubles leave feeling relieved") rated on a five-point Likert scale (1 = completely inappropriate, 5 = completely appropriate), with higher scores reflecting greater empathic tendency. Internal consistency was high (α = .86, ω = .88, $\lambda 6$ = .85). CFA indicated good model fit for the single-factor structure (χ^2/df = 2.98, CFI = .94, TLI = .92, RMSEA = .06, SRMR = .05).

Communication Skills Scale

Expressive communication was assessed using the self-expression subscale of the Communication Skills Scale (Korkut-Owen and Bugay 2014). This subscale consists of four items (e.g., "I can express my thoughts verbally") rated on a five-point Likert scale (1 = never, 5 = always), with higher scores indicating stronger expressive communication. The internal consistency was satisfactory (α = .84, ω = .86, $\lambda 6$ = .82). CFA supported the single-factor structure (χ^2/df = 2.10, CFI = .98, TLI = .96, RMSEA = .05, SRMR = .03).

Flourishing Scale

Psychological well-being was measured using the Flourishing Scale (Diener et al. 2010, Telef 2013). The scale consists of eight items (e.g., "I lead a purposeful and meaningful life") rated on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree), with higher scores indicating greater well-being. Internal consistency was high (α = .86, ω = .88, $\lambda 6$ = .85). CFA supported the unidimensional structure (χ^2/df = 2.65, CFI = .96, TLI = .94, RMSEA = .06, SRMR = .04).

Statistical Analysis

Before testing the hypotheses, preliminary analyses were conducted to examine missing data, multivariate outliers, distributional characteristics, and multicollinearity. Missing data were negligible (< 1% of responses across all variables) and were handled via listwise deletion. Multivariate outliers were identified using the Mahalanobis distance (χ^2 cutoff at $p < .001$) and removed prior to the main analyses; the final analytical sample consisted of 722 participants. The skewness and kurtosis values were within acceptable limits (±1.5), indicating that no substantial departures from normality occurred (Tabachnick and Fidell 2013). Multicollinearity diagnostics showed no concerns (VIF < 5; tolerance > .20).

To assess potential common method bias, Harman's single-factor test was conducted, with a single factor accounting for 32.16% of the total variance. While this falls within ranges that are generally considered acceptable, Harman's test has recognized limitations as a standalone diagnostic, and common method variance cannot be fully excluded (Podsakoff et al. 2003). This test is widely used despite its recognized insensitivity to moderate levels of shared method variance, particularly its tendency to underdetect bias when true effect sizes and item reliabilities fall within the ranges typical of multi-item self-report measures (Fuller et al. 2016). It was retained here primarily for comparability with prior research in this area, where it remains the most commonly reported diagnostic rather than as a definitive safeguard against common method bias. Procedural measures, including anonymous participation, scale separation within the questionnaire, and standardized administration, were applied to reduce this risk. Construct validity was evaluated via separate CFAs for each scale, with model fit judged against conventional criteria

(CFI and TLI ≥ .90, RMSEA and SRMR ≤ .08; Hu and Bentler 1999). The standardized factor loadings, item-level performance indices, and latent factor correlations are presented in Table 1.

Table 1. Psychometric properties, standardized CFA factor loading, and latent factor correlations

Scale	Item	λ	SE	*t*
Psychological Resilience (Brief Resilience Scale)	Item 1	.74	.04	18.50***
	Item 2	68	.05	13.60***
	Item 3	.79	.04	19.75***
	Item 4	.65	.05	13.00***
	Item 5	.82	.03	27.33***
	Item 6	.71	.04	17.75***
Empathy (Empathic Tendency Scale)	Item 1	.62	.05	12.40***
	Item 2	.65	.04	16.25***
	Item 3	.58	.05	11.60***
	Item 4	.71	.04	17.75***
	Item 5	.74	.04	18.50***
	Item 6	.60	.05	12.00***
	Item 7	.67	.04	16.75***
	Item 8	.69	.04	17.25***
	Item 9	.63	.05	12.60***
	Item 10	.72	.04	18.00***
	Item 11	.59	.05	11.80***
	Item 12	.78	.03	26.00***
	Item 13	.66	.04	16.50***
	Item 14	.70	.04	17.50***
	Item 15	.61	.05	12.20***
	Item 16	.73	.04	18.25***
	Item 17	.70	.04	17.50***
	Item 18	.64	.04	16.00***
	Item 19	.75	.04	18.75***
	Item 20	.66	.05	13.20***
Expressive Communication (Communication Skills Scale)	Item 1	.81	.03	27.00***
	Item 2	.76	.04	19.00***
	Item 3	.84	.03	28.00***
	Item 4	.73	.04	18.25***
Psychological Well-Being (Flourishing Scale)	Item 1	.75	.04	18.75***
	Item 2	.78	.04	19.50***
	Item 3	.70	.04	17.50***
	Item 4	.72	.04	18.00***
	Item 5	.83	.03	27.66***
	Item 6	.69	.05	13.80***
	Item 7	.76	.04	19.00***
	Item 8	.80	.03	26.66***

CFA: Confirmatory Factor Analysis; λ = Factor loading (lambda); SE = Standard error. All loadings are statistically significant at ***p < .001

Descriptive statistics and Pearson correlations were computed for all the study variables. The hypothesized mediation and serial mediation effects were tested using the PROCESS macro (Model 6; Hayes 2018), which estimates the direct effect of the independent variable on the outcome alongside specific and total indirect effects through the mediators. Indirect effects were evaluated using bootstrapped confidence intervals (10,000 resamples; 95% bias-corrected CIs). An indirect effect was considered statistically significant if the CI excluded zero (Preacher and Hayes 2008). All analyses were conducted using SPSS (v.23) and the PROCESS macro (v.3.5). Standardized coefficients (β) are reported for the path estimates presented in Figure 1, whereas unstandardized coefficients (B) are reported for the indirect effects in Table 3. Given the cross-sectional design, the proposed ordering of mediators is

theoretically derived and should not be interpreted as establishing temporal or causal precedence (Cole and Maxwell 2003, Maxwell and Cole 2007).

Results

Descriptive statistics and zero-order correlations among the study variables are presented in Table 2. All the variables were significantly and positively intercorrelated (ps < .05). Psychological resilience showed moderate positive associations with empathy (r = .32), expressive communication (r = .44), and psychological well-being (r = .49). Empathy was also positively correlated with expressive communication (r = .36) and psychological well-being (r = .34). The strongest bivariate association was observed between expressive communication and psychological well-being (r = .54). Skewness and kurtosis values indicated no substantial departures from normality.

Table 2. Descriptive statistics and intercorrelations among the study variables

Variables	M	SD	Skewness	Kurtosis	1	2	3	4
1. Psychological resilience	32.56	7.57	-.45	.72	—			
2. Empathy	68.03	15.16	.38	-.60	.32**	—		
3. Expressive communication	29.03	8.48	-.22	.35	.44***	.36**	—	
4. Psychological well-being	72.27	17.23	-.90	1.10	.49***	.34**	.54***	—

M = mean; SD = standard deviation. **p < .01, ***p < .001

The serial mediation model was tested using PROCESS Model 6, with psychological resilience as the predictor, psychological well-being as the outcome, and empathy and expressive communication as the sequential mediators. Psychological resilience was significantly associated with empathy (β = .31, p < .01, R2 = .10. Both psychological resilience (β = .42, p < .01) and empathy (β = .28, p < .01) were significantly associated with expressive communication (R2 = .27. In the outcome equation, psychological resilience (β = .24, p < .001), empathy (β = .18, p < .001), and expressive communication (β = .46, p < .001) were each independently associated with psychological well-being (R2 = .40) (see Figure 1). All bootstrapped indirect effects were statistically significant, as their 95% CIs excluded zero.

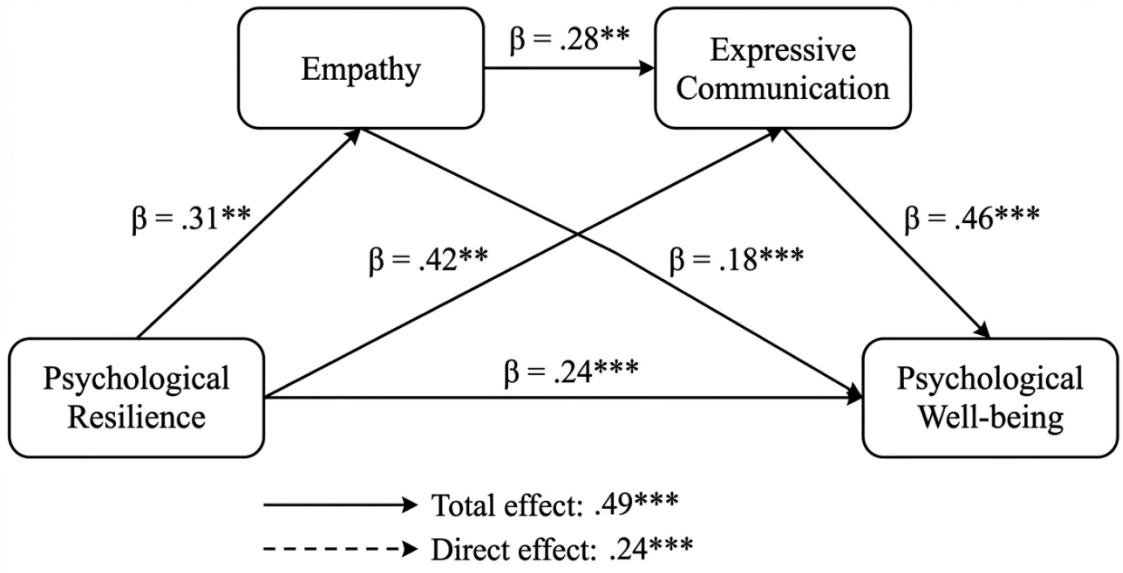


Figure 1. Serial mediation model of the association between psychological resilience and psychological well-being through empathy and expressive communication

β = Standardized coefficient. Standardized path coefficients are presented. **p < .01, ***p < .001

The bootstrapped estimates of total, direct, and indirect effects are presented in Table 3. The total effect of psychological resilience on psychological well-being was significant (B = .49, 95% CI [.42, .57]). The direct effect remained significant after the inclusion of both mediators (B = .24, 95% CI [.16, .33]), indicating partial mediation. The overall indirect effect was also significant (B = .25, 95% CI [.19, .31]).

Examination of the specific indirect pathways revealed significant indirect associations through empathy alone (B = .06, 95% CI [.03, .10]), through expressive communication alone (B = .14, 95% CI [.10, .19]), and through the sequential pathway via empathy followed by expressive communication (B = .05, 95% CI [.03, .08]). All CIs excluded zero, supporting the hypothesized indirect associations.

Table 3. Direct and indirect effects of psychological resilience on psychological well-being

Effects	B	95% CI
Total effect	.49	[.42, .57]
Direct effect	.24	[.16, .33]
Overall indirect effect	.25	[.19, .31]
Resilience → Empathy → Psychological Well-Being	.06	[.03, .10]
Resilience → Expressive communication → Psychological Well-Being	.14	[.10, .19]
Resilience → Empathy → Expressive communication → Psychological Well-Being	.05	[.03, .08]

B = Unstandardized coefficient; CI = Confidence interval

Discussion

This study examined how psychological resilience is related to adolescent psychological well-being and whether empathy and expressive communication independently and sequentially account for part of that association. The findings are broadly consistent with the hypothesized pathways and offer a more differentiated picture of the socioemotional correlates of resilience than direct-effects models typically provide.

The direct association between resilience and well-being replicated well-established findings in the adolescent literature (Davydov et al. 2010). Adolescents who adapt more readily to stress and recover from setbacks tend to report higher levels of life satisfaction and positive functioning. From a theoretical standpoint, this is consistent with process-oriented accounts of resilience, which frame it as a dynamic regulatory capacity rather than a fixed personality trait (Southwick et al. 2014, Masten and Barnes 2018). Resilience has also been characterized as a transdiagnostic protective factor that appears to buffer against internalizing difficulties and stress-related psychopathology across the developmental spectrum rather than protecting against any single disorder (Davydov et al. 2010). The present cross-sectional data are consistent with this view, although they cannot establish directionality. Greater psychological well-being may support more effective coping and stress recovery, and future longitudinal work is needed to disentangle these possibilities.

Beyond the direct association, the findings highlight empathy as an interpersonal variable linked to both resilience and well-being. These findings are consistent with research showing that emotion regulation capacity, which is often associated with resilience, may also be related to greater empathic responsiveness (Tugade and Fredrickson 2004, Masten and Barnes 2018). Adolescents who are better able to manage their own distress without becoming overwhelmed may also be more capable of attending to others' emotional states, supporting perspective-taking and affective attunement. This is not a trivial observation from a mental health perspective: empathic deficits have been associated with social withdrawal, peer rejection, and elevated internalizing symptoms during adolescence, which are direct threats to psychological well-being that are also relevant targets for preventive intervention (Fink and de Rosnay 2023, Martín Quintana et al. 2023). Within Ryff's (1989) framework, the capacity for empathic engagement is directly relevant to the dimension of positive relationships with others, which may represent one pathway through which resilient adolescents report greater well-being. It should be noted, however, that the current design measures empathy as a trait disposition and does not directly assess the regulatory processes theorized to connect it to resilience; this interpretive step remains speculative pending longitudinal or experimental evidence.

The findings also point to expressive communication as a behavioral variable independently linking resilience and well-being. Adolescents with higher levels of resilience tended to report stronger expressive communication, which is consistent with prior work showing that resilient individuals are more likely to engage in approach-oriented social strategies that involve articulating concerns, seeking support, and

participating constructively in interpersonal exchanges (Frolova et al. 2019). Through these behaviors, expressive communication may help facilitate access to social support and reinforce feelings of competence and belonging, both of which are important to psychological well-being (Salmela-Aro and Upadyaya 2020, Arslan et al. 2021). This pathway appeared to function independently of empathy in the present model, which makes theoretical sense: awareness of others' emotional states and the capacity to express one's own are related but distinct competencies, and both appear to carry independent variance in well-being outcomes.

One potentially important contribution of the study is the support for a sequential indirect pathway in which resilience was associated with empathy, which in turn was associated with expressive communication and, ultimately, well-being. This pattern may be consistent with the possibility that these socioemotional variables are not merely correlated but are ordered in a theoretically coherent way: the capacity for emotional attunement may provide an informational basis for more adaptive expressive communication, which then relates to better psychological outcomes. This is consistent with emotion regulation frameworks that describe regulatory capacity as being associated with adaptive social behavior across multiple processing levels (Gross 2015) and with developmental accounts in which the capacity to understand others' emotional states may precede the behavioral expression of that understanding in social interaction (Van der Graaff et al. 2014, 2016). It is important to acknowledge, however, that the proposed order (empathy preceding expressive communication) is theoretically derived and not empirically established by this study. The reverse ordering is plausible, as it is a parallel structure, and alternative model comparisons are needed to evaluate the superiority of the sequential specification.

Beyond statistical significance, the relative magnitude of these indirect pathways has an interpretive value that has not been fully addressed above. The indirect pathway through expressive communication alone (B = .14) was descriptively more than double the size of the pathway through empathy alone (B = .06) and nearly three times the size of the serial pathway through empathy and expressive communication together (B = .05). In proportional terms, the expressive-communication-only pathway accounted for approximately 56% of the total indirect effect (.25), compared with approximately 24% for empathy alone and 20% for the serial pathway. This pattern suggests that, at least in the present cross-sectional sample, the direct behavioral expression of thoughts and feelings may carry more explanatory weight for the resilience–well-being association than the sequential unfolding of empathy into communication does. This does not diminish the theoretical value of the serial pathway, which remained statistically reliable and conceptually distinct, but it does suggest that interventions targeting expressive communication directly may yield comparatively larger practical returns than those relying solely on a staged empathy-then-communication sequence.

The framing of empathy and expressive communication as potentially transdiagnostic socioemotional processes represents one contribution of this work to a broader theoretical conversation about resilience and mental health in adolescence. Deficits in these processes have been implicated across multiple forms of adolescent emotional difficulty, and resilience may be relevant precisely because it may be associated with the maintenance of interpersonal competencies that buffer against a range of such difficulties. Whether the strength of this sequential pathway varies as a function of cultural context, particularly in settings with collectivist relational norms, where the expression of empathy and the use of expressive communication may take different forms, remains an open question that future cross-cultural work should address.

This study contributes to the literature by jointly examining empathy and expressive communication as potential variables linked to psychological resilience and adolescent well-being within a serial mediation framework. Rather than treating resilience as an isolated, individual-level resource, the findings situate it within a broader socioemotional context in which interpersonal competencies play a meaningful role. This extends prior work by specifying how intrapersonal coping capacity may be linked to relational functioning, a distinction that matters given that resilience does not appear to confer uniform benefits across all individuals and contexts. Notwithstanding these contributions, several methodological and conceptual limitations must be taken into account when interpreting the current findings. First, and most fundamentally, the cross-sectional design is a significant constraint on inference. Serial mediation

analyses conducted with cross-sectional data estimate conditional associations among variables measured simultaneously; they do not establish temporal ordering, developmental progression, or causal influence (Cole and Maxwell 2003, Maxwell and Cole 2007). The proposed sequence from resilience to empathy to expressive communication to well-being is theoretically motivated, but whether it holds prospective remains unknown. Reverse or bidirectional associations are entirely plausible. Greater psychological well-being may support more empathic and communicative behavior, and the current data cannot adjudicate between these possibilities.

Second, all the variables were measured through self-reports, introducing the possibility of shared method variance and response biases. Although Harman's single-factor test suggested no dominant factor, this approach has recognized limitations as a standalone diagnostic (Podsakoff et al. 2003), and common method effects cannot be fully ruled out. Future studies would benefit from multi-informant designs, particularly for expressive communication, where peer-reported or observer-based ratings may diverge meaningfully from self-perception. Third, the sample was drawn from a single region of Türkiye, which limits the generalizability of the findings. Cultural norms around emotional expression and interpersonal communication vary substantially across contexts and may shape how these constructs relate to each other and to well-being.

Fourth, the current model does not include control variables such as gender, grade level, or parental marital status, which are known to be related to empathy, communication, and well-being in adolescent research. Future work should incorporate these variables to rule out alternative explanations, particularly given the age range and the unequal gender distribution in the present sample. Fifth, individual CFAs were conducted for each scale rather than a full measurement model, meaning that discriminant validity between conceptually adjacent constructs, particularly empathy and expressive communication, has not been established directly. Reporting average variance extracted and heterotrait–monotrait ratios in future work would strengthen confidence in the construct distinctiveness of the mediators.

Conclusion

This study examined the association between psychological resilience and adolescent psychological well-being, with a focus on the potential roles of empathy and expressive communication as independently and sequentially linked variables. The findings suggest that resilience is associated with well-being not only directly but also through socioemotional processes that unfold in interpersonal contexts. Both empathy and expressive communication were independently associated with this relationship, and a sequential indirect pathway was identified in which higher resilience was associated with greater empathy, which in turn was related to stronger expressive communication and better well-being. Although the cross-sectional design precludes causal conclusions, the consistent pattern of indirect associations points to interpersonal competencies as meaningful correlates of the resilience–well-being relationship. These findings complement process-oriented accounts of resilience (Southwick et al. 2014, Masten and Barnes 2018) and extend Ryff's (1989) model by illustrating how intrapersonal coping capacity may be linked to relational functioning. Collectively, the results suggest that psychological well-being in adolescence is not simply a function of internal resources; it is also shaped by how those resources are expressed and experienced in social interaction.

These findings also have practical implications for school-based mental health promotion. Interventions aimed at strengthening adolescent resilience may be more effective when they also foster empathy and expressive communication, as resilience appears to operate partly through these interpersonal competencies. Programs that combine emotional regulation with opportunities to develop empathic awareness and expressive communication may therefore provide a more comprehensive approach to promoting psychological well-being. Although the present findings should not be interpreted as evidence of intervention effectiveness, they suggest promising directions for future prevention efforts. Future intervention studies may examine whether strengthening resilience together with interpersonal competencies, rather than addressing each capacity in isolation, leads to greater improvements in adolescent well-being. Building on these practical implications, future research can prioritize longitudinal

designs to examine whether resilience prospectively predicts changes in empathy, expressive communication, and well-being over time. Experimental and intervention-based designs could test whether targeted enhancement of these interpersonal competencies amplifies the outcomes associated with resilience-based programs, an approach with clear implications for preventive mental health. Investigating potential moderators, including gender, socioeconomic status, family context, and cultural setting, may clarify for whom and under what conditions these pathways are most relevant. Cross-cultural replications would be particularly valuable for evaluating whether the sequential structure identified here reflects a broadly applicable developmental pattern or one that is shaped by contextual factors specific to Türkiye.

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