



## Scenario Meets Survey: Integrating Measures of Empathy in Adolescent L2 Communication

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### ABSTRACT

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This study examines the relationship between empathy and English communicative performance among Korean adolescents by integrating survey-based and scenario-based measures. While previous research has relied primarily on self-report instruments, this study adopts a mixed approach to capture both perceived empathy and its expression in actual language use. Participants completed a modified Interpersonal Reactivity Index and responded to scenario-based tasks. Their responses were evaluated in terms of English proficiency, empathic quality, and communicative tone. Correlation analyses, t-tests, and ANOVAs were conducted to examine relationships among variables and group differences by gender and age. The results showed that empathy was positively associated with English performance, empathic expression, and tone. Significant relationships were also found between survey-based and scenario-based empathy measures, indicating that survey-based empathy is reflected in communicative performance. Gender differences showed that female students scored higher across empathy-related measures, while age patterns indicated that empathy-related measures appeared relatively stable from mid- to late adolescence in the present cross-sectional sample, whereas language proficiency increases at later stages. This study demonstrates the complementary value of combining survey-based and scenario-based approaches, offering a more comprehensive understanding of empathy in L2 communication and suggesting implications for future research and instruction.

### KEYWORDS

empathy, scenario-based assessment, second language learning, adolescent learners, socio-emotional factors

## 1. Introduction

In recent years, second language (L2) research has increasingly recognized that language learning is not solely a cognitive process but also involves a range of affective and socio-emotional factors. Drawing on perspectives from positive psychology (Dewaele and MacIntyre 2016), researchers have emphasized that learners' emotions and personal characteristics play a crucial role in shaping their engagement, motivation, and achievement in L2 learning contexts. Among these factors, empathy has emerged as a particularly important construct.

A growing body of research, including studies conducted in the Korean context, has demonstrated that empathy is closely related to various aspects of English learning. For instance, Park and Lim (2021) found that empathy was positively associated with English learning motivation and classroom enjoyment among middle school students. Similarly, Lee (2022) reported that empathy influenced English reading achievement indirectly through achievement emotions and reading motivation, highlighting its role in shaping learners' affective and motivational processes. Also, research on English reading has found that empathy influences learning outcomes both directly and indirectly through mediating variables such as achievement emotions and reading motivation. These findings suggest that empathy is not merely a psychological trait but a meaningful factor that contributes to L2 learning processes and outcomes.

Overall, previous studies indicate that empathy is closely associated with learners' motivation, emotional experience, and academic performance in English learning. In particular, because empathy involves the ability to understand others' perspectives and emotions, it is likely to play an important role in communicative contexts where learners must interpret meaning and produce contextually appropriate responses. From this perspective, empathy can be seen as a key socio-emotional resource that supports effective language use (Cooper 2011).

However, despite these important contributions, most existing studies have relied primarily on self-report measures to assess empathy. While questionnaire-based instruments are useful for capturing learners' perceived empathic tendencies, they have limitations in representing how empathy is actually expressed in real communicative situations. In L2 contexts, empathy is not only an internal psychological disposition but also a performative construct that is manifested through language use. Therefore, relying solely on self-report data may not fully capture the relationship between empathy and communicative performance.

To address this limitation, there is a need for complementary approaches that assess empathy through actual language production. One possible approach is scenario-based measurement, in which learners are presented with socially meaningful situations and asked to produce responses in the target language. This method allows us to examine not only whether learners possess empathic tendencies, but also how they express empathy linguistically in context. In this sense, scenario-based tasks may provide a more behaviorally grounded approximation of empathic communication by examining how learners respond to socially situated situations through language use.

Furthermore, recent advances in large language models (LLMs) have created new possibilities for interactive language learning environments. As LLMs increasingly engage learners in simulated conversations, the ability to model and evaluate empathic language use becomes pedagogically significant. If scenario-based measures can reliably capture learners' empathic responses in language, such data could be used to inform the development of LLM-based instructional systems that support empathy-oriented communication in English learning.

Building on this perspective, the present study extends previous research on empathy and English learning by integrating self-report measures with scenario-based performance tasks. By combining these approaches, the study aims to examine not only the relationship between empathy and English communicative performance, but also the extent to which self-reported empathy is reflected in actual language use. In addition, this study considers learner variables such as gender and age to provide a more comprehensive understanding of empathy in adolescent L2 contexts.

## 2. Literature Review

### 2.1 Conceptualizing Empathy

To better understand the role of empathy in L2 learning, it is necessary to conceptualize empathy as a multidimensional construct. Cognitive empathy refers to the ability to understand another person's perspective, whereas affective empathy involves sharing or responding to others' emotional states (Coplan and Goldie 2011). In addition, empathy has been described as a socially enacted competence that includes the ability to express understanding appropriately in interaction (Cooper 2011). From this perspective, empathy is not merely an internal psychological disposition but also a communicative ability that is realized through socially situated interaction.

In educational settings, empathy has been recognized as an important socio-emotional competency that supports interpersonal relationships and learning. Learners with higher empathy tend to interpret others' intentions more accurately, regulate their emotional responses more effectively, and engage more actively in communication (Cooper 2004, Feshbach and Feshbach 2009). These characteristics are particularly relevant in language learning contexts, where meaning is co-constructed through interaction and where successful communication depends not only on linguistic accuracy but also on sensitivity to interlocutors and context.

### 2.2 Emotion, Motivation and L2 Learning

Within this framework, empathy can be understood as a socio-emotional construct that shapes learners' emotional experiences and, in turn, influences motivation and learning behavior. Empirical studies have demonstrated that emotions play a critical role in shaping cognitive processes such as attention, interpretation, and memory (Clore and Huntsinger 2009, Huntsinger et al. 2010). In classroom contexts, emotions are also closely linked to motivation and learning behaviors (Meyer and Turner 2002). In the field of second language acquisition, motivation has been identified as one of the most important predictors of learning success (Dörnyei 2005), with reading motivation, in particular, contributing to sustained engagement and comprehension development (Guthrie et al. 2007, Wigfield and Guthrie 1997).

Within this framework, empathy can be understood as a socio-emotional resource that contributes to learning by shaping learners' emotional experiences and motivational processes. Because empathy involves sensitivity to others' perspectives and emotions, it may enhance learners' engagement in communication and support more meaningful interaction.

A growing body of research has examined the relationship between empathy and second language learning. In the Korean context, several studies have demonstrated that empathy is positively associated with English learning outcomes. For example, Park and Lim (2021) found that empathy was significantly related to English learning motivation and classroom enjoyment among middle school students. Similarly, Lee (2022) reported that empathy influenced English reading achievement indirectly through achievement emotions and reading motivation.

These findings are consistent with earlier work suggesting that empathy contributes to language learning by facilitating emotional engagement and reducing anxiety. More recent studies have similarly reported that empathy-oriented instructional approaches positively influence learners' language proficiency and classroom engagement (Karimian 2022). For example, Chen (2008) found that learners with higher empathy experienced less pressure and demonstrated greater fluency in English speaking tasks. These studies suggest that empathy plays an important role in shaping learners' emotional experiences, motivation, and performance in L2 contexts.

However, while previous research has established the relationship between empathy and learning-related variables, relatively little attention has been paid to how empathy is reflected in actual language use. In particular, scenario-based approaches allow researchers to examine how learners respond to emotionally and socially situated situations, thereby capturing empathy as it is enacted in communication. Such approaches are especially relevant in L2 contexts, where effective communication requires not only linguistic accuracy but also sensitivity to context and interlocutor perspective.

Despite these contributions, most existing studies have relied heavily on self-report questionnaires to measure empathy. Instruments such as the Interpersonal Reactivity Index (IRI) or other survey-based tools capture learners' perceived empathic tendencies, but they do not directly assess how empathy is expressed in real communicative situations.

This limitation is particularly critical in L2 contexts. Language learning involves not only internal psychological states but also observable communicative behavior. Learners demonstrate empathy through language use, for example, by selecting appropriate expressions, adjusting tone, and responding sensitively to context. Therefore, relying solely on self-reported data may not fully capture the performative nature of empathy in communication.

In addition, self-report measures are subject to well-documented limitations, including social desirability bias and discrepancies between perceived and actual behavior. These limitations highlight the need for complementary approaches that can assess empathy in more ecologically valid ways.

Building on these considerations, the present study integrates self-report measures of empathy with scenario-based performance tasks to examine the relationship between empathy and English communicative performance. By combining these approaches, the study aims to investigate the extent to which self-reported empathy is reflected in actual language use and to address a key methodological gap in existing research.

Scenario-based tasks also share methodological similarities with performance-based pragmatic assessment in L2 research, including discourse completion tasks (DCTs) and written role-play measures. Previous studies in L2 pragmatics have used such approaches to examine learners' ability to produce contextually appropriate and socially meaningful responses. For example, Bardovi-Harlig (2013) emphasized that pragmatic competence involves learners' ability to respond appropriately within socially situated contexts, rather than simply producing grammatically correct language. Similarly, Roever (2011) discussed the importance of performance-based assessment in capturing learners' pragmatic ability through contextualized communicative tasks. Taguchi (2015) further highlighted that pragmatics research increasingly values context-sensitive and interaction-oriented measures that reflect authentic language use. Although the present study focuses specifically on empathic communication rather than pragmatic competence more broadly, these traditions provide important methodological support for the use of scenario-based written responses as indicators of socially situated language use. Building on these considerations, this study addresses the following research questions:

- RQ1. What relationships exist among empathy, English communicative performance, and contextual variables?
- RQ2. How are survey-based and scenario-based measures of empathy related?
- RQ3. How do empathy and communicative performance differ across gender and age groups?

By investigating these questions, this study seeks to reconceptualize empathy in L2 learning as both a psychological trait and a communicative performance, and to provide empirical insights that may inform future research and AI-supported language education.

### 3. Methodology

#### 3.1 Participants

A total of 84 Korean adolescents participated in this study, consisting of 60 males and 24 females. Participants were divided into three age groups: 39 students aged 13 (middle school), 25 students aged 15 (middle school), and 20 students aged 17 (high school). The sample therefore included two middle school groups and one high school group, with a relatively smaller number of female participants. Participation was voluntary and facilitated by English teachers who agreed to administer the study as part of regular class activities. Students completed the survey and scenario-based tasks simultaneously on individual digital devices via Google Forms during class time.

#### 3.2 Instruments

Background information, including gender, age, media time, and talk time was collected prior to the empathy items. Media time referred to participants' self-reported amount of daily digital media use, including activities such as social media use, online video viewing, and smartphone-based entertainment. Talk time referred to the amount of time participants reported engaging in face-to-face interpersonal conversation in daily life. Both variables were measured using ordinal response categories representing approximate daily time ranges and were included as contextual variables because patterns of media exposure and interpersonal interaction may influence socio-emotional development and communication. The empathy items were collected using both survey-based and scenario-based measures.

##### 3.2.1 Survey-based measure (IRI-ECPT)

Empathy was assessed using a shortened version of the Interpersonal Reactivity Index (IRI; Davis 1983), focusing on the Empathic Concern (EC, 7 items) and Perspective Taking (PT, 7 items) subscales. The subscales were selected based on their suitability for being adapted into scenario-based items. This shortened scale is referred to as the IRI-ECPT. Several items required reverse coding (EC items 4, 14, 18; PT items 3, 15). Students responded using a 5-point Likert scale, and their responses were later recoded and averaged to calculate mean scores.


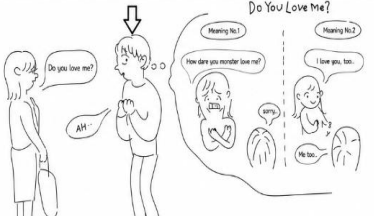
##### 3.2.2 Scenario-based measure (for English proficiency, empathic quality, and tone)

To complement the self-report survey, a scenario-based empathy assessment was developed. Fourteen scenarios representing the content of the EC and PT subscales were illustrated visually. The illustrations were created by an English and Art Education double-major student, who read the empathy items, designed corresponding scenes, and revised them through discussion with the first author. During class, students were required to write down what they would say in each scenario. Because participation was part of class activity, all students provided written responses. Although the task did not involve real-time interaction, the use of visually contextualized interpersonal situations was intended to enhance ecological relevance by eliciting responses grounded in socially meaningful contexts. In this sense, the task was intended to capture certain performative aspects of empathic communication in L2 use.

Scenario-based tasks were developed by transforming selected IRI-ECPT items into visually contextualized interpersonal situations. For each scenario, participants were asked to imagine themselves as the indicated speaker

(marked with an arrow) as in Table 1 and write a response that would be appropriate in that situation. This approach was designed to elicit context-sensitive, empathic language use rather than decontextualized Likert-scale responses.

**Table 1. Sample Scenario-based Tasks Derived from IRI-ECPT Items**

IRI-ECPT Item (Subscale)	Scenario Description	Visual Scenario (Example)
4. Sometimes I don't feel very sorry for other people when they are having problems. (Empathic Concern, EC)	A friend is upset and crying because someone treated them unfairly. Another person (arrow) is observing the situation. Participants are asked to respond as the indicated person and comfort the upset friend.	 <p>The illustration shows two people. On the left, a person is crying and saying, "How could he do that to me!". On the right, another person is looking at them and saying, "By the way, what are we going to have for lunch?". An arrow points to the person on the right, indicating they are the one to respond.</p>
21. I believe that there are two sides to every question and try to look at them both. (Perspective Taking, PT)	A person is asked a sensitive question ('Do you love me?'). The indicated person (arrow) is asked to respond by considering the other person's feelings and perspective, showing understanding of multiple viewpoints.	 <p>The illustration shows a person being asked, "Do you love me?". The person responds, "Ah!". Another person is shown thinking, "How does your monitor love me?". A third person is shown saying, "I love you, too." An arrow points to the person being asked the question, indicating they are the one to respond.</p>

Note. Participants were instructed to write their own response as the person indicated by the arrow in each scenario.

### 3.3 Data Collection Procedures

The study was first introduced to English teachers in the participating schools, who voluntarily agreed to include the activities during their class time. Teachers informed students that the study was not related to grades, that there were no 'right' or 'wrong' answers, and that the purpose was to explore the relationship between empathy and English among Korean adolescents. Students who chose not to participate indicated this in the open-ended section, and their data were excluded from analysis. Data collection took approximately 30 minutes per class session. Students completed both the IRI-ECPT and the scenario-based empathy simultaneously using Google Forms on their individual devices.

### 3.4 Data Analysis Procedures

For the IRI-ECPT, responses were reverse-coded for designated items prior to analysis. Mean scores were calculated for Empathic Concern (EC), Perspective Taking (PT), and a combined Total-ECPT score. All statistical analyses were conducted using SPSS (version 18). Pearson correlation analyses were performed to examine associations between empathy measures and contextual variables (age, gender, media use, and talk time). Independent-samples t-tests were used to assess gender differences, and one-way ANOVAs with Tukey post-hoc tests were conducted to examine differences across age groups (13, 15, and 17 years).

For the scenario-based tasks, students' responses were evaluated along three dimensions: English proficiency, empathic quality, and response tone. A structured scoring rubric was developed to guide the evaluation process:

- (1) English proficiency was assessed based on linguistic complexity and coherence, using a scale from 0 (no response) to 5 (highly proficient). Scores were assigned according to the level of syntactic development, ranging from single words or fragments (1) to multi-clause, coherent responses (5). For example, short responses such as "It's too bad" were rated at lower levels, whereas responses including multiple clauses and clearer interpersonal reasoning, such as "Of course there are some her fault but you guys shouldn't be

bad to her,” received higher scores.

- (2) Empathic quality was evaluated on a scale from 0 (non-meaningful or irrelevant response) to 5 (highly empathic response). Lower scores reflected minimal or dismissive responses, whereas higher scores reflected responses that demonstrated perspective-taking, emotional sensitivity, and supportive intent within the scenario context. For example, responses such as “I don’t care” received very low empathy scores, whereas responses acknowledging another person’s feelings or attempting to mediate the situation received higher scores (e.g., “I’m sad” or “hmmm.. What did she do to do that?”).
- (3) Tone was coded as negative (-1), neutral (0), or positive (1), and averaged across scenarios to represent the overall affective orientation of each participant’s responses. Responses expressing rejection or indifference (e.g., “I don’t care”) were coded as negative, whereas supportive or encouraging responses were coded as positive (e.g., “It’s understandable” or “Phew, I feel sorry for you”).

To ensure scoring reliability, two experts in English education independently rated all responses using the same scoring criteria. Both raters hold doctoral degrees in English education and have more than 20 years of experience in language teaching and research. Inter-rater agreement was examined using weighted Cohen’s kappa, which indicated a very high level of agreement between the two raters (weighted  $\kappa = .97$ ).

For each participant, average scores across the 14 scenarios were calculated for each dimension. These aggregated scores were then analyzed using the same statistical procedures applied to the survey data, including correlation analyses, t-tests, and ANOVAs. Because the study was exploratory in nature and aimed to examine patterns across multiple demographic and contextual variables, these analyses were used to identify potential relationships and group differences. Given the relatively small and uneven subgroup sizes, the findings should be interpreted cautiously. Effect sizes were calculated using Cohen’s *d* for t-tests and eta squared ( $\eta^2$ ) for ANOVAs.

## 4. Results and Discussion

### 4.1 Gender Differences in Empathy-Related Variables

Descriptive statistics (Table 2) show that female students were older on average and obtained higher scores in empathy-related measures, English performance, and tone. However, because female participants were older on average than male participants, the observed gender differences should be interpreted cautiously, as they may partially reflect age-related variation.

**Table 2. Descriptive Statistics in Terms of Gender**

Measure	All			Male			Female		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Age	84	14.54	0.81	60	13.94	0.70	24	16.08	0.51
Media time	84	2.58	1.10	60	2.50	1.16	24	2.79	0.93
Talk time	84	3.08	1.04	60	2.87	1.07	24	3.63	0.77
IRI-ECPT	84	3.14	0.52	60	3.04	0.44	24	3.37	0.62
English	84	1.43	1.48	60	1.22	1.31	24	1.96	1.77
Scenario-based empathy	84	1.53	1.10	60	1.19	0.95	24	2.38	0.99
Tone	84	0.05	0.10	60	0.03	0.09	24	0.09	0.11

Correlation analyses in Table 3 revealed that patterns observed in the overall sample were largely consistent with those of male students, reflecting the larger sample size of this group. However, female students showed distinct associations. In particular, media time was negatively correlated with both empathy ( $r = -.41, p = .044$ ) and tone ( $r = -.42, p = .039$ ) among females, suggesting that increased media exposure may be associated with less empathic and less positive responses in this group. In contrast, talk time showed a positive relationship with empathy across the overall sample ( $r = .22, p = .043$ ), indicating that interpersonal interaction may support empathic expression.

The scenario-based empathy scores were positively associated with English performance (all:  $r = .49, p = .000$  / male:  $r = .51, p = .000$ ) and tone (all:  $r = .47, p = .000$  / male:  $r = .31, p = .016$  / female:  $r = .62, p = .001$ ). These results indicate that self-reported empathy is related to multiple aspects of communicative performance. This finding is consistent with previous studies suggesting that empathy contributes to language learning and classroom engagement by facilitating emotionally responsive communication (Chen 2008, Karimian 2022). In particular, the positive relationship between survey-based and scenario-based empathy measures supports the view that empathy can be reflected not only in self-perception but also in contextualized language performance. In addition, significant positive correlations were observed between survey-based and scenario-based empathy measures for both the overall sample ( $r = .55, p = .000$ ) and male participants ( $r = .58, p = .000$ ). This suggests that higher levels of self-reported empathy are reflected in more empathic responses in scenario-based tasks, especially among male students. Considering that male participants constituted a larger proportion of the sample, the overall pattern should be interpreted with caution.

The correlation patterns observed in Table 3 provide important insights into how empathy relates to communicative performance and contextual factors. The positive associations between survey-based empathy and English performance, tone, and scenario-based empathy suggest that empathic tendencies are not merely internal dispositions but are reflected in actual communicative behavior.

This finding is consistent with previous research emphasizing the role of individual differences and affective factors in second language learning. In particular, Dörnyei (2005) highlighted that learners' personal and emotional characteristics play a crucial role in shaping language learning outcomes. The present study extends this perspective by demonstrating that empathy is not only associated with motivational and affective variables but is also observable in learners' language production.

Importantly, the strong correlations between survey-based and scenario-based empathy measures, particularly in the overall sample and among male students, provide empirical support for the validity of the scenario-based assessment. While previous research has relied primarily on self-report measures, the present findings suggest that these perceived empathic tendencies are meaningfully reflected in actual communicative responses.

Gender differences further highlight the context-sensitive nature of empathy. Female students showed distinctive patterns, particularly the negative associations between media time and both empathy and tone. This pattern is broadly consistent with prior research using the IRI, which reported gender differences in empathy-related dimensions (Lucas-Molina et al. 2017), and the present findings suggest that their empathic expression may also be more sensitive to environmental factors such as media use. The stronger empathic performance observed among female students may also reflect differences in interpersonal orientation and emotional expressiveness during adolescence. Previous empathy research has suggested that female learners tend to demonstrate greater sensitivity to interpersonal and emotional cues (Lucas-Molina et al. 2017). In communicative contexts, such tendencies may facilitate more supportive, affectively responsive, and context-sensitive language use.

**Table 3. Correlation in Terms of Gender**

Measure	Group		Age	Media time	Talk time	IRI-ECPT	English	Scenario-based empathy	Tone
Age	All	r	1	.03	.21	.41**	.54**	.64**	.16
		sig.		.800	.058	.000	.000	.000	.146
	M	r	1	-.06	.09	.44**	.41**	.62**	.00
		sig.		.634	.519	.000	.001	.000	.987
	F	r	1	-.03	-.35	.03	.85**	.13	-.02
		sig.		.901	.097	.893	.000	.534	.946
Media time	All	r	.03	1	.09	.02	-.16	-.07	-.03
		sig.		.800	.397	.882	.142	.508	.767
	M	r	-.06	1	.03	-.04	-.21	-.07	.06
		sig.		.634	.835	.776	.115	.600	.650
	F	r	-.03	1	.19	.02	-.19	-.41*	-.42*
		sig.		.901	.375	.933	.373	.044	.039
Talk time	All	r	.21	.09	1	.14	.04	.22*	.15
		sig.		.058	.397	.203	.740	.043	.169
	M	r	.09	.03	1	.01	.03	.07	.07
		sig.		.519	.835	.929	.846	.620	.620
	F	r	-.35	.19	1	.15	-.23	.10	.09
		sig.		.097	.375	.485	.289	.647	.688
IRI-ECPT	All	r	.41**	.02	.14	1	.33**	.55**	.37**
		sig.		.000	.882	.203	.002	.000	.000
	M	r	.44**	-.04	.01	1	.27*	.58**	.40**
		sig.		.000	.776	.929	.034	.000	.002
	F	r	.03	.02	.15	1	.29	.36	.20
		sig.		.893	.933	.485	.169	.082	.340
English	All	r	.54**	-.16	.04	.33**	1	.49**	.20
		sig.		.000	.142	.740	.002	.000	.074
	M	r	.41**	-.21	.03	.27*	1	.51**	.16
		sig.		.001	.115	.846	.034	.000	.234
	F	r	.85**	-.19	-.23	.29	1	.35	.13
		sig.		.000	.373	.286	.169	.090	.558
Scenario-based empathy	All	r	.64**	-.07	.22*	.55**	.49**	1	.47**
		sig.		.000	.508	.043	.000	.000	.000
	M	r	.62**	-.07	.07	.58**	.51**	1	.31*
		sig.		.000	.600	.620	.000	.000	.016
	F	r	.13	-.41*	.10	.36	.35	1	.62**
		sig.		.534	.044	.647	.082	.090	.001
Tone	All	r	.16	-.03	.15	.37**	.20	.47**	1
		sig.		.146	.767	.169	.000	.074	.000
	M	r	.00	.06	.07	.40**	.16	.31*	1
		sig.		.987	.650	.620	.002	.234	.016
	F	r	-.02	-.42*	.09	.20	.13	.62**	1
		sig.		.946	.039	.688	.340	.558	.001

In contrast, talk time showed a positive relationship with empathy across the overall sample, indicating that interpersonal interaction may support the development and expression of empathic communication. This finding is consistent with research highlighting the importance of social interaction in socio-emotional and academic development (Ciarrochi et al. 2015, Wentzel 2009). In language learning contexts, opportunities for meaningful interaction may allow learners to practice perspective-taking and emotionally appropriate responses, thereby

strengthening both empathy and communicative competence.

These findings suggest that empathy in L2 learning is not only an individual trait but also a communicative resource that is shaped through interaction and expressed in language use. These also suggest that empathy may function as a communicative resource rather than merely a stable psychological trait, as mentioned earlier. Learners with higher empathy scores not only reported stronger empathic tendencies but also demonstrated greater ability to produce contextually sensitive and emotionally appropriate responses. This supports Cooper’s (2011) view that empathy is socially enacted through interaction and communication. In L2 contexts, empathic ability may therefore contribute to learners’ capacity to interpret interpersonal situations, adjust communicative tone, and construct socially appropriate responses. Therefore, those kinds of communicative competence should be introduced and developed through L2 classroom activities.

#### 4.2 Age Differences in Empathy-Related Variables

Table 4 shows the descriptive statistics indicating that both self-reported empathy (IRI-ECPT) and scenario-based empathy scores increased with age. English performance also showed a marked increase in the 17-year-old group.

**Table 4. Descriptive Statistics in Terms of Age**

Measure	13			15			17		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Media time	39	2.59	1.23	25	2.48	1.16	20	2.70	0.73
Talk time	39	2.79	1.11	25	3.40	1.00	20	3.25	0.85
IRI-ECPT	39	2.90	0.37	25	3.30	0.46	20	3.39	0.64
English	39	1.03	1.14	25	0.55	1.07	20	3.33	0.68
Scenario-based empathy	39	0.80	0.76	25	1.90	1.05	20	2.49	0.69
Tone	39	0.03	0.06	25	0.06	0.12	20	0.07	0.13

Correlation analyses in Table 5 revealed age-specific patterns. Among 13-year-olds, media time was negatively correlated with English performance ( $r = -.41, p = .009$ ), suggesting that higher levels of media use were associated with lower language performance at this stage. In contrast, scenario-based empathy showed significant positive correlations with English performance ( $r = .47, p = .002$ ), tone ( $r = .43, p = .007$ ), and survey-based empathy ( $r = .47, p = .003$ ), indicating that even at an early stage of adolescence, empathic expression in scenario-based tasks is meaningfully related to both language ability and affective orientation.

For 15-year-olds, correlations among variables were generally weaker, suggesting a temporary weakening of the relationships between empathy and communicative performance. One unexpected finding was that the mean English proficiency score for the 15-year-old group was lower than that of the 13-year-old group. Although language proficiency would generally be expected to increase with age, this pattern may reflect characteristics of the present sample and participants’ engagement with the scenario-based task. According to the participating teachers, the middle school second-year students in this study tended to show lower willingness to participate in emotionally expressive or role-based activities, possibly reflecting characteristics associated with early adolescence. Because the task required participants to respond to interpersonal and emotionally situated scenarios, some students may have provided shorter or less elaborated responses despite possessing adequate linguistic knowledge. Previous research has suggested that affective and motivational factors can influence L2 communicative performance and task engagement (Dörnyei 2005, Meyer and Turner 2002). Further qualitative analyses are needed to understand this unexpected finding in relation to age and gender.

In contrast, 17-year-olds exhibited stronger and more consistent patterns. Scenario-based empathy was strongly correlated with English performance ( $r = .80, p = .000$ ), and also showed significant associations with tone ( $r = .51, p = .023$ ) and survey-based empathy ( $r = .63, p = .003$ ). These findings indicate that the relationship between empathy and communicative performance becomes more pronounced in later adolescence.

**Table 5. Correlation in Terms of Age**

Measure	Group		Media time	Talk time	IRI-ECPT	English	Scenario-based empathy	Tone
Media time	13	r	1	.25	.01	-.41**	-.22	.18
		sig.		.130	.947	.009	.171	.278
	15	r	1	-.10	.08	-.17	.00	-.08
		sig.		.632	.722	.407	.986	.720
	17	r	1	-.04	-.06	-.16	-.06	-.34
		sig.		.860	.814	.508	.792	.146
Talk time	13	r	.25	1	.08	-.02	.15	.03
		sig.	.130		.629	.899	.376	.839
	15	r	-.10	1	-.09	-.02	-.04	.10
		sig.	.632		.682	.930	.843	.644
	17	r	-.04	1	.12	.21	.28	.29
		sig.	.860		.610	.370	.231	.209
IRI-ECPT	13	r	.01	.08	1	.31	.47**	.50**
		sig.	.947	.629		.059	.003	.001
	15	r	.08	-.09	1	.18	.23	.24
		sig.	.722	.682		.387	.265	.240
	17	r	-.06	.12	1	.49*	.63**	.35
		sig.	.814	.610		.027	.003	.132
English	13	r	-.41**	-.02	.31	1	.47**	.12
		sig.	.009	.899	.059		.002	.474
	15	r	-.17	-.02	.18	1	.16	.21
		sig.	.407	.930	.387		.447	.312
	17	r	-.16	.21	.49*	1	.80**	.38
		sig.	.508	.370	.027		.000	.095
Scenario-based empathy	13	r	-.22	.15	.47**	.47**	1	.43**
		sig.	.171	.376	.003	.002		.007
	15	r	.00	-.04	.23	.16	1	.56**
		sig.	.986	.843	.265	.447		.004
	17	r	-.06	.28	.63**	.80**	1	.51*
		sig.	.792	.231	.003	.000		.023
Tone	13	r	.18	.03	.50**	.12	.43**	1
		sig.	.278	.839	.001	.474	.007	
	15	r	-.08	.10	.24	.21	.56**	1
		sig.	.720	.644	.240	.312	.004	
	17	r	-.34	.29	.35	.38	.51*	1
		sig.	.146	.209	.132	.095	.023	

Overall, the present findings also support the methodological value of scenario-based assessment. Previous research in L2 pragmatics has emphasized that contextualized written tasks, such as DCTs and role-play measures, can capture learners' socially situated communicative abilities (Bardovi-Harlig 2013, Roever 2011, Taguchi 2015). Similarly, the scenario-based task used in the present study appeared to reflect learners' empathic tendencies through actual language use. Although the relationship was weaker among 15-year-olds, strong positive correlations observed in the 13- and 17-year-old groups suggest that scenario-based measures are generally consistent with survey-based assessments of empathy.

The age-related patterns observed in Table 5 provide important insights into the developmental relationship between empathy and communicative performance. Across age groups, scenario-based empathy consistently showed positive associations with English performance, tone, and survey-based empathy, although the strength of these relationships varied by developmental stage.

Among 13-year-olds, scenario-based empathy was already significantly associated with English performance, tone, and survey-based empathy. This suggests that even at an early stage of adolescence, empathic tendencies can be meaningfully expressed through language. This finding supports previous research emphasizing that affective and individual difference variables play a role in language learning from early stages (Dörnyei 2005). At the same time, the negative relationship between media time and English performance indicates that younger learners may be more susceptible to environmental influences that can interfere with language development.

In contrast, the weaker correlations observed among 15-year-olds suggest a temporary disruption in the relationship between empathy and communicative performance. One possible interpretation is that the weaker relationships observed among the 15-year-old group may reflect characteristics of this particular sample and their lower willingness to engage in emotionally expressive or role-based tasks, as noted by the participating teachers. However, because the study employed a cross-sectional design, these interpretations should be considered tentative.

By age 17, the relationships among variables became stronger and more stable. The strong correlation between scenario-based empathy and English performance, along with its associations with tone and survey-based empathy, suggests that empathic tendencies and communicative abilities become more integrated in later adolescence. This finding aligns with research indicating that emotional regulation and perspective-taking abilities continue to develop and stabilize over time (Fredrickson 2001, Meyer and Turner 2002).

Importantly, the overall pattern provides empirical support for the validity of scenario-based measures. Despite the temporary weakening observed at age 15, the strong and consistent relationships found in both younger and older groups indicate that scenario-based assessments capture meaningful aspects of empathic communication across developmental stages. In this sense, scenario-based measures can be considered a developmentally robust tool for examining the role of empathy in L2 communication.

These findings suggest that the relationship between empathy and language use is dynamic and developmentally sensitive. While empathy can be expressed through language from an early age, its integration with communicative performance appears to strengthen over time, highlighting the importance of considering developmental factors in both research and pedagogy. The findings also have implications for research on L2 pragmatics and socially situated communication. Previous pragmatics research has emphasized that successful communication depends not only on grammatical accuracy but also on learners' ability to interpret context, interpersonal relationships, and speaker intentions (Bardovi-Harlig 2013, Roever 2011, Taguchi 2015). The present study extends this perspective by suggesting that empathic responsiveness may represent an important affective dimension of pragmatic competence. In this sense, scenario-based empathy tasks may provide useful insight into how learners manage socially and emotionally appropriate communication in L2 contexts. This interpretation also highlights the importance of considering learner engagement when using scenario-based communicative tasks with adolescents. Because the present task required emotional perspective-taking and interpersonal role-based responses, willingness to participate may have influenced the quantity and elaboration of learners' written production. Future studies should therefore examine how developmental, contextual, and motivational factors interact with performance on scenario-based empathy measures.

### 4.3 Group Differences by Gender and Age

Table 6 of Independent-samples t-tests showed that female students scored significantly higher than male students in talk time, IRI-ECPT, scenario-based empathy, and tone. The gender differences observed in Table 6 showed medium to large effect sizes. In particular, scenario-based empathy demonstrated a very large effect size ( $d = 1.23$ ), indicating substantial differences in empathic expression between male and female students. Medium to large effect sizes were also observed for talk time, IRI-ECPT, and tone, suggesting that the gender-related patterns identified in the study were not only statistically significant but also practically meaningful.

**Table 6. Gender Differences in Empathy-Related Measures**

Measure	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>sig.</i>	Cohen's <i>d</i>	Group difference
Talk Time	M	60	2.87	1.07	82	-3.63	.001	.77 (medium-to-large)	M < F
	F	24	3.63	0.77					
IRI-ECPT	M	60	3.04	0.44	82	-2.38	.024	.67 (medium)	M < F
	F	24	3.37	0.62					
Scenario-based empathy	M	60	1.19	0.95	82	-5.11	.000	1.23 (very large)	M < F
	F	24	2.38	0.99					
Tone	M	60	0.03	0.09	82	-2.52	.014	.61 (medium)	M < F
	F	24	0.09	0.11					

**Table 7. Age Differences in Empathy-Related Measures**

Measure	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>sig.</i>	$\eta^2$	Post-hoc
IRI-ECPT	13	39	2.90	0.37	2	9.16	.000	.18 (large)	13 < 15, 13 < 17 15 = 17
	15	25	3.30	0.46					
	17	20	3.39	0.63					
English	13	39	1.03	1.14	2	46.32	.000	.53 (very large)	13 = 15 13 < 17, 15 < 17
	15	25	0.55	1.07					
	17	20	3.33	0.68					
Scenario-based empathy	13	39	0.80	0.76	2	29.99	.000	.43 (very large)	13 < 15, 13 < 17 15 = 17
	15	25	1.90	1.05					
	17	20	2.49	0.69					

One-way ANOVAs in Table 7 revealed significant age differences in survey-based empathy (IRI-ECPT), scenario-based empathy, and English performance. Post hoc analyses indicated that younger students (age 13) scored significantly lower than older groups, while differences between ages 15 and 17 were not significant for empathy measures. In contrast, English performance was significantly higher in the 17-year-old group compared to both younger groups. Overall, these results indicate that both gender and age are associated with variations in empathy-related and communicative performance measures. These results also showed large effect sizes. In particular, English performance ( $\eta^2 = .53$ ) and scenario-based empathy ( $\eta^2 = .43$ ) demonstrated very large effects, indicating substantial variation across age groups. IRI-ECPT scores also showed a large effect size ( $\eta^2 = .18$ ). These findings suggest that age-related differences in empathic communication and language performance were not only statistically significant but also educationally meaningful within the present sample.

The group differences presented in Tables 6 and 7 provide additional insight into how empathy and communicative performance vary across gender and developmental stages. Unlike the correlation analyses, which

focused on relationships among variables, these results highlight structural differences between groups.

First, the findings show that female students scored significantly higher than male students in talk time, survey-based empathy, scenario-based empathy, and tone. This pattern suggests that female students not only perceive themselves as more empathic but also demonstrate higher levels of empathic expression in actual communicative tasks. Importantly, the consistency across both survey-based and scenario-based measures indicates that these differences are not limited to perception but are reflected in observable language use. From a language learning perspective, this suggests that female learners may be more inclined to engage in emotionally responsive communication, which may contribute to richer interactional experiences.

Second, the age-related differences reveal distinct developmental trajectories for empathy and language performance. Both survey-based empathy and scenario-based empathy increased significantly from age 13 to age 15, but showed no significant differences between ages 15 and 17. This pattern suggests that empathy-related measures appeared to increase by mid-adolescence and remained relatively stable thereafter. In contrast, English performance showed a different pattern, with a substantial increase only at age 17. This indicates that linguistic proficiency may continue to develop at a later stage, even after socio-emotional competencies such as empathy have stabilized. The relatively lower English scores observed among the 15-year-old group may reflect characteristics specific to the participating school context or sample rather than a general developmental tendency. Because the study did not control for school-level instructional differences, this result should be interpreted cautiously. In addition, the present age-group comparisons should be interpreted cautiously because the sample was not fully balanced across gender and school context. Future studies with more balanced and diverse participant groups may help clarify the extent to which the observed patterns reflect broader developmental tendencies across adolescent learners.

This divergence suggests that empathy and language ability do not develop in a strictly parallel manner. Rather, empathy may serve as a foundational socio-emotional capacity that becomes available earlier, while language proficiency requires longer-term cognitive and educational development. Once linguistic resources reach a sufficient level, as observed in the 17-year-old group, learners may be better able to express already-developed empathic tendencies in more complex and nuanced ways.

These findings suggest that empathy and communicative performance are interconnected but may show different patterns across age groups. In the present cross-sectional sample, empathy-related measures appeared relatively stable from mid- to late adolescence, whereas English proficiency showed greater variation across groups. This pattern suggests that the effective expression of empathy in a second language may depend partly on learners' developing linguistic resources. Importantly, by combining survey-based and scenario-based measures, the present study was able to examine both the relationships among variables and learners' actual communicative performance, including language proficiency and tone. Consistent with recent approaches to performance-based assessment in L2 pragmatics (Bardovi-Harlig 2013, Roever 2011, Taguchi 2015), this integrated approach highlights the complementary value of combining self-report and contextualized response tasks in capturing empathic communication in socially situated L2 use. One possible explanation for the positive relationship between empathy and English performance is that empathic learners may engage more actively in meaning-oriented communication. Because empathy involves sensitivity to interlocutors' emotions and perspectives, learners with higher empathy may pay closer attention to contextual meaning and interactional appropriateness during communication. Such engagement may encourage more elaborated responses and greater communicative involvement, which in turn may support language development and performance. This interpretation is broadly consistent with previous research linking emotional engagement and motivation to successful language learning (Dörnyei 2005, Meyer and Turner 2002).

The findings of this study may be particularly meaningful in the Korean EFL context, where language learning has traditionally emphasized grammatical accuracy and test-oriented performance. While such approaches support linguistic development, they may provide fewer opportunities for learners to practice emotionally responsive and socially situated communication. The present study suggests that empathy-oriented communicative tasks may help broaden the goals of L2 learning by encouraging learners to consider interpersonal meaning, emotional tone, and audience awareness during communication.

## 5. Conclusion

This study investigated the relationship between empathy and English communicative performance among Korean adolescents by integrating survey-based measures (IRI-ECPT) with scenario-based tasks. The findings showed that empathy is positively associated with language performance, empathic expression, and communicative tone, and that these relationships vary across gender and developmental stages.

Importantly, this study demonstrates the value of combining survey-based and scenario-based approaches to empathy assessment. While survey measures allowed for the examination of relationships among variables, scenario-based tasks provided insight into learners' actual language use, enabling the analysis of both the quantity and quality of communication. This integrated approach allowed the study to capture how empathy is expressed in real communicative contexts, as well as how it differs by gender and age. This highlights the complementary value of combining the two methods in understanding empathic communication in L2 learning.

Several limitations should be acknowledged. The sample was not balanced in terms of gender and age distribution, which may have influenced the observed patterns. In particular, because gender and age were not independently balanced, some observed group differences may reflect overlapping effects between these variables. In addition, the study focused primarily on productive written language tasks and did not include receptive aspects of language ability or real-time interaction. Regarding the analysis, because multiple statistical comparisons were conducted across several subgroup analyses, some findings should be interpreted cautiously. Furthermore, because the study employed a cross-sectional design, the findings should not be interpreted as evidence of developmental change over time.

These limitations also point to several important directions for future research. At the same time, the scenario-based format used in the present study may also have practical value for classroom assessment. Simplified versions of the task and rubric could be adapted for formative assessment purposes, allowing teachers to evaluate not only linguistic accuracy but also learners' empathic and affective responsiveness in communication. In classroom settings, simplified versions of the scenario-based task could be used as formative assessment activities to evaluate not only grammatical accuracy but also learners' interpersonal sensitivity and communicative appropriateness. For example, teachers could adapt selected scenarios for pair work, reflective speaking tasks, or short written responses and apply simplified versions of the three-dimensional rubric focusing on language use, empathic responsiveness, and affective tone. Also, the divergence between empathy-related measures and English proficiency across age groups may also have implications for curriculum sequencing. The findings suggest that empathic sensitivity may emerge earlier than the ability to express empathy effectively in a second language. This indicates that communicative tasks promoting perspective-taking and emotional awareness could be introduced at earlier stages of language learning, even before learners develop advanced linguistic proficiency.

Future research should include more balanced and diverse samples, refine measures of contextual variables such as media use, and adopt longitudinal designs to better understand developmental changes in empathy and language

performance. Further studies may also explore how scenario-based empathy data can be applied in AI-mediated language learning environments to support more interactive and emotionally responsive communication. Recent studies have also highlighted the growing importance of empathy and emotionally supportive interaction in AI-mediated language learning environments (De Brasi and Mongibello 2025). As conversational AI systems increasingly participate in language education, evaluating learners' ability to produce empathic and socially appropriate communication may become an important component of future L2 assessment. Scenario-based assessment tasks such as those used in the present study may therefore provide useful frameworks for developing AI-supported communicative activities that encourage both linguistic performance and interpersonal responsiveness. Future research should also examine whether scenario-based empathy tasks function similarly across different school contexts and gender-balanced samples. Further validation studies comparing scenario-based tasks with real-time interactional data may also help strengthen the construct validity of this assessment approach.

Overall, this study provides empirical evidence that empathy is not only a psychological trait but also a communicative resource that can be observed and assessed through language use, offering new directions for both research and pedagogy in L2 learning.

## References

- Bardovi-Harlig, K. 2013. Developing L2 pragmatics. *Language Learning* 63(Suppl. 1), 68-86.
- Chen, L. 2008. The effect of empathy on college English speaking. *Asian Social Science* 4(8), 142-146.
- Ciarrochi, J., P. Parker, T. B. Kashdan, P. C. L. Heaven and E. Barkus. 2015. Hope and emotional well-being: A six-year study to distinguish antecedents, correlates, and consequences. *Journal of Positive Psychology* 10(6), 1-13.
- Clore, G. L. and J. R. Huntsinger. 2009. How the object of affect guides its impact. *Emotion Review* 1(1), 39-54.
- Cooper, B. 2004. Empathy, interaction and caring: Teachers' roles in a constrained environment. *Pastoral Care in Education* 22(3), 12-21.
- Cooper, B. 2011. *Empathy in Education: Engagement, Values and Achievement*. London: Bloomsbury Publishing.
- Coplan, A. and P. Goldie. 2011. *Empathy: Philosophical and Psychological Perspectives*. New York: Oxford University Press.
- Davis, M. H. 1983. Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology* 44(1), 113-126.
- De Brasi, V. and A. Mongibello. 2025. Empathy and politeness in AI chatbot-mediated language learning: Insights from EFL learners' interactions with LLM-based chatbots. In *Proceedings of the 17th International Conference on Education and New Learning Technologies*, 5423-5430.
- Dewaele, J. M. and P. D. MacIntyre. 2016. Foreign language enjoyment and foreign language classroom anxiety: The right and left feet of FL learning? In P.D. MacIntyre, T. Gregersen and S. Mercer, eds., *Positive Psychology in SLA*, 215-236. Bristol, UK: Multilingual Matters.
- Dörnyei, Z. 2005. *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition*. Mahwah, NJ: Lawrence Erlbaum.
- Feshbach, N. D. and S. Feshbach. 2009. Empathy and education. In J. Decety and W. Ickes, eds., *The Social Neuroscience of Empathy*, 85-97. Cambridge, MA: MIT Press.
- Fredrickson, B. L. 2001. The role of positive emotions in positive psychology: The broaden-and-build theory of

- positive emotions. *American Psychologist* 56(3), 218-226.
- Guthrie, J. T., L. W. Hoa, A. Wigfield, S. M. Tonks, N. M. Humenick and E. Littles. 2007. Reading motivation and reading comprehension growth in the later elementary years. *Contemporary Educational Psychology* 32(4), 282-313.
- Huntsinger, J. R., G. L. Clore and Y. Bar-Anan. 2010. Mood and global–local focus: Priming a local focus reverses the link between mood and global–local processing. *Emotion* 10(5), 722-726.
- Karimian, M. 2022. The effect of empathy-enhancing techniques on EFL learners' empathy, language proficiency, and perception of classroom activities. *Journal of Contemporary Language Research* 1(1), 29-41.
- Lee, H. 2022. The effects of empathy on English reading comprehension through the mediated effects of achievement emotions and English reading motivation. *Journal of Language Science* 29(2), 73-92.
- Lucas-Molina, B., A. Pérez-Albéniz, J. Ortuño-Sierra and E. Fonseca-Pedrero. 2017. Dimensional structure and measurement invariance of the Interpersonal Reactivity Index (IRI) across gender. *Psicothema* 29(4), 590-595.
- Meyer, D. K. and J. C. Turner. 2002. Discovering emotion in classroom motivation research. *Educational Psychologist* 37(2), 107-114.
- Park, J.-Y. and H.-W. Lim. 2021. Effects of English classroom enjoyment and empathy on English learning motivation. *Studies in Foreign Languages Education* 35(2), 205-224.
- Roever, C. 2011. Testing of second language pragmatics: Past and future. *Language Testing* 28(4), 463-481.
- Taguchi, N. 2015. Instructed pragmatics at a glance: Where instructional studies were, are, and should be going. *Language Teaching* 48(1), 1-50.
- Wentzel, K. R. 2009. Students' relationships with teachers as motivational contexts. In Wentzel, K. R. and D. B. Miele, eds., *Handbook of Motivation at School*, 301-322. New York: Routledge.
- Wigfield, A. and J. T. Guthrie. 1997. Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology* 89(3), 420-432.

Examples in: English

Applicable Languages: English

Applicable Level: Secondary