

Original Article

Perceptions of Senior High School Students and Teachers on Research as a Core Subject in Public Schools in Pasig City

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Article History:

Date received: April 10, 2026

Date revised: May 24, 2026

Date accepted: June 9, 2026

Recommended citation:

Rogando, M., Guhiting, B., Aparato, J.P., Marcos, J.S., Garcia, W., & Chavez, T.M. (2026). Perceptions of senior high school students and teachers on research as a core subject in public schools in Pasig City. *Journal of Interdisciplinary Perspectives*, 4(7), 102-113.
<https://doi.org/10.69569/jip.2026.190>

Abstract. Research education plays a vital role in developing critical thinking, analytical reasoning, and evidence-based learning among Senior High School students. However, limited studies have simultaneously examined the perceptions of both students and teachers toward research within the context of Philippine public schools. This study investigated the perceptions of Senior High School students and teachers on research as a core subject in terms of research usefulness, research-related anxiety, and positive predisposition toward research. It also examined whether significant differences existed when respondents were grouped according to age and teaching experience. The study employed a cross-sectional descriptive-comparative research design involving 551 respondents, composed of 468 students and 83 teachers from six public Senior High Schools in Pasig City. Data were gathered using an adapted questionnaire based on the Revised Attitudes Toward Research Scale (R-ATR). Descriptive and inferential statistics, particularly the Mann-Whitney U test, were utilized for data analysis. Findings revealed that both students and teachers perceived research as useful and demonstrated positive predispositions toward research. However, both groups also experienced research-related anxiety, indicating that research is perceived as a cognitively demanding academic task. Significant differences were found in students' perceptions of research usefulness ($U = 19626$, $p = .006$), research-related anxiety ($U = 16257$, $p = .001$), and positive predisposition toward research ($U = 15524$, $p = .001$) when grouped according to age. In contrast, no significant differences were found in teachers' perceptions when grouped according to age and teaching experience. The findings suggest that although both students and teachers value research, research-related anxiety remains evident. This highlights the need for strengthened instructional support and professional development initiatives to improve research engagement and help strengthen engagement in research activities and reduce research-related anxiety.

Keywords: Research anxiety; Research education; Research usefulness; Senior High School; Student perception

Research plays a central role in education as a mechanism for knowledge generation, critical inquiry, and evidence-based decision-making. In Senior High School education, research is intended to develop learners' higher-order thinking skills such as analysis, problem-solving, and academic reasoning, thereby preparing students for higher education and professional contexts. Recent studies have shown that inquiry-based and research-oriented learning contribute significantly to the development of critical thinking, analytical reasoning, and evidence-based learning among students (Organisation for Economic Co-operation and Development [OECD], 2023).

Within the Philippine Senior High School system, recent curriculum reforms have introduced structural changes in the positioning of research subjects, transitioning research from a core subject to a more elective-oriented component in some curricular pathways. Although these reforms aim to reduce curriculum congestion and strengthen employability-related competencies, they also raise important educational concerns regarding how students and teachers perceive research within changing instructional contexts. Research is widely recognized as a cognitively demanding academic task that requires not only technical competence but also motivational readiness and emotional regulation (Darling-Hammond et al., 2021).

Despite the growing relevance of research education, existing literature remains limited in several ways. Most contemporary studies have examined either student or teacher perceptions separately rather than within a shared instructional environment (Khosravi et al., 2022; Ulla & Perales, 2021). In addition, prior studies have often focused on isolated aspects of research attitudes, such as usefulness or anxiety, without integrating the cognitive, emotional, and motivational dimensions associated with research engagement (Putwain et al., 2021; Wang et al., 2023). Consequently, there remains a limited understanding of how students and teachers simultaneously perceive research within the context of curriculum transition in Philippine public schools.

To provide a broader framework for understanding research perceptions, the present study draws upon three complementary theories. Expectancy-value theory suggests that learners are more likely to engage in academic tasks they perceive as valuable and relevant, thereby supporting the dimension of perceived research usefulness (Eccles & Wigfield, 2021). Similarly, control-value theory posits that anxiety may emerge when individuals perceive academic tasks as demanding while experiencing uncertainty regarding their ability to manage these demands successfully (Pekrun, 2021). Meanwhile, self-determination theory emphasizes that positive motivation develops when individuals experience competence, autonomy, and relevance within learning activities, thereby supporting the dimension of positive predisposition toward research (Ryan & Deci, 2021). Together, these theories provide a conceptual lens for interpreting the cognitive, emotional, and motivational dimensions of research perception among students and teachers.

This study addresses an important gap in the literature by examining both students and teachers within a shared instructional setting rather than treating them as separate populations. Specifically, the study investigates perceptions of research usefulness, research-related anxiety, and positive predisposition toward research among Senior High School students and teachers in selected public schools in Pasig City. The study also examines whether significant differences exist when respondents are grouped according to age and teaching experience. The study did not aim to test predictive or causal relationships among the variables examined. Rather, the theoretical frameworks were used to guide the interpretation of descriptive and comparative findings related to research perceptions within the educational context.

Research Questions:

RQ1. What is the level of perceived research usefulness?

RQ2. What is the level of research-related anxiety?

RQ3. What is the level of positive predisposition toward research?

RQ4. Is there a significant difference in students' perceptions of research usefulness, research-related anxiety, and positive predisposition toward research when grouped according to age?

RQ5. Is there a significant difference in teachers' perceptions of research usefulness, research-related anxiety, and positive predisposition toward research when grouped according to age?

RQ6. Is there a significant difference in teachers' perceptions of research usefulness, research-related anxiety, and positive predisposition toward research when grouped according to teaching experience?

Methodology

Research Design

This study employed a cross-sectional descriptive-comparative research design to examine the perceptions of research usefulness, research-related anxiety, and positive predisposition toward research among respondents, grouped by age and teaching experience. A cross-sectional design was considered appropriate because the data were collected from the respondents at a single point in time, allowing the researchers to describe and compare existing conditions and characteristics without manipulating any variables. This design is widely utilized in educational and social science research to investigate patterns and group differences within a specific population in a real-world setting (Creswell & Creswell, 2021). Through this approach, the study provided a comprehensive overview of respondents' perceptions and experiences while preserving the natural context of the educational environment.

Participants and Sampling Technique

The study was conducted in six (6) public Senior High Schools in Pasig City. A total of 551 respondents participated in the study, consisting of 468 students and 83 teachers. The study employed a multi-stage sampling approach. Convenience sampling was used in selecting participating schools based on accessibility and institutional approval, while stratified sampling with proportional allocation was used to select student and teacher respondents within each school. Respondents were grouped into two primary strata: Senior High School students (Grades 11 and 12) and teachers who handle research-related or core subjects. This approach ensured adequate representation of both respondent groups across the participating schools.

The distribution of respondents across schools varied depending on accessibility and availability during data collection. Nevertheless, both student and teacher respondents were represented in all participating schools to ensure coverage of different instructional settings within the public Senior High School system in Pasig City. Due to sparse subgroup distributions among teacher respondents, demographic categories were collapsed prior to inferential analysis to improve statistical stability and interpretability. Teacher age categories were grouped into younger and older teacher classifications, while teaching experience categories were grouped into early-career teachers (0–4 years) and more experienced teachers (5 years and above).

Research Instrument

The study utilized an adapted survey questionnaire derived from the Revised Attitudes Toward Research Scale (R-ATR), a previously validated instrument designed to measure attitudes toward research across multiple dimensions. The instrument was adapted to align with the Senior High School research context while preserving the items' original construct structure and meaning. The adapted questionnaire retained 13 items representing three dimensions: perceived research usefulness, research-related anxiety, and positive predisposition toward research. The perceived research usefulness subscale consisted of four items assessing respondents' cognitive evaluation of the value and relevance of research. The research-related anxiety subscale included five items measuring emotional responses toward research tasks and courses. The positive predisposition toward research subscale contained four items assessing respondents' motivational orientation and favorable attitudes toward research.

Responses were measured using a four-point Likert scale ranging from 1 ("Strongly Disagree") to 4 ("Strongly Agree"). Minor contextual modifications in wording were introduced to improve alignment with the Senior High School curriculum while maintaining the conceptual integrity of the original instrument. To establish content validity, the adapted instrument was evaluated by experts in education and research methodology. Revisions were incorporated based on their recommendations to ensure clarity, contextual appropriateness, and alignment with the study's objectives. Reliability analysis was conducted using Cronbach's alpha coefficient to determine the internal consistency of the instrument and its subscales. The overall reliability coefficient of the adapted questionnaire was $\alpha = .92$, indicating excellent internal consistency. Subscale reliability analysis also demonstrated acceptable to excellent reliability across dimensions: perceived research usefulness ($\alpha = .88$), research-related anxiety ($\alpha = .90$), and positive predisposition toward research ($\alpha = .87$). These findings support the instrument's suitability for measuring respondents' perceptions of research. These results indicate that the items within each dimension consistently measured their intended constructs and support the instrument's suitability for the present study. High Cronbach's alpha coefficients are widely recognized as evidence of strong internal consistency in social science research (Field, 2021).

Data Gathering Procedure

Prior to data collection, approval was obtained from the Schools Division Office of Pasig City and from the principals of the selected public Senior High Schools. Respondents were informed regarding the purpose of the study, the voluntary nature of participation, and the ethical considerations involved in the research process. Informed consent was obtained from all participants prior to data collection. For respondents below 18 years old, parental or guardian consent was secured before participation. Data were collected using an online survey questionnaire administered through Google Forms. The survey link was disseminated to eligible respondents, specifically Grade 11 and Grade 12 students and teachers handling research-related or core subjects. Respondents were given sufficient time to complete the questionnaire at their convenience. Participants were assured that their responses would remain confidential and would be used solely for research purposes. The use of an online platform facilitated efficient data collection, improved accessibility, and minimized data entry errors. Prior to analysis, data screening procedures were conducted to check for missing values, response consistency, and potential outliers. These procedures helped ensure the completeness and quality of the dataset before statistical analysis was performed.

Data Analysis Procedure

Prior to inferential statistical analysis, assumption testing and data screening procedures were conducted to determine the appropriateness of the statistical techniques used in the study. The normality of the data distribution was initially assessed using the Shapiro-Wilk test. The results yielded statistically significant values ($p < .001$), indicating deviations from normality. Visual inspection of histograms and Q-Q plots further showed departures from the normal distribution. Moreover, the decision to employ nonparametric statistical techniques was not based solely on the Shapiro-Wilk results. Given the relatively large sample size, small deviations from normality can yield statistically significant results even when the distributions appear approximately symmetric. Therefore, additional methodological considerations were taken into account.

First, the study used responses from a four-point Likert scale, yielding ordinal-level data. Although summed Likert responses are sometimes treated as approximately continuous, the bounded and ordinal nature of the response structure supports the use of more distribution-free statistical procedures. Second, subgroup distributions within the study were unequal and, in some cases, sparse. For instance, certain teacher age and teaching-experience categories had substantially smaller sample sizes than other groups. Such an imbalance may affect the robustness of parametric procedures and increase the likelihood of violating homogeneity and distributional assumptions.

In light of these considerations, nonparametric statistical tests were selected as the most appropriate analytical approach. Specifically, the Mann-Whitney U test was selected because the study compared two independent groups for each grouping variable. These procedures are appropriate for ordinal or non-normally distributed data and are less sensitive to unequal group sizes and violations of parametric assumptions (Field, 2021). Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were computed to summarize respondents' demographic characteristics and perceptions across the three dimensions of research attitude: perceived usefulness, research-related anxiety, and positive predisposition toward research. All statistical analyses were conducted using Jamovi (Jamovi Project, 2022), with the significance level set at 0.05.

Ethical Considerations

This study adhered to established ethical standards for data collection, storage, retrieval, and protection, in accordance with standard ethical principles and the Data Privacy Act of 2012. Prior to data collection, permission was obtained from the Schools Division Office of Pasig City and from the principals of selected public Senior High Schools. Respondents were informed of the purpose of the study and asked to provide consent before completing the survey. Participation was voluntary, and respondents were informed that they could withdraw or skip questions at any time without any adverse consequences. To ensure confidentiality and data privacy, responses were collected through Google Forms without requiring personally identifying information. Data were securely stored on the researchers' devices and were accessible only to the research team. Furthermore, the researchers declared that no financial or personal conflicts of interest were associated with the study's integrity or findings. These procedures safeguarded participants' rights, ensured compliance with data privacy standards, and protected the study's trustworthiness on perceptions of Research as a core subject among Senior High School students and teachers.

Results and Discussion

Profile of Participants

Student Respondents

Table 1 presents the demographic profile of student respondents. The majority of students fall within the age group of 15–20 years (72.23%), followed by those aged 21–25 years (27.77%), with no representation from older age groups.

Table 1. *Profile of Student Respondents*

Profile	Frequency (F)	Percentage (%)
Age Group		
15-20	338	72.23%
21-25	130	27.77%
26-30	0	0%
Total	468	100%

For students, the sample largely reflects the typical Senior High School population, where learners are at a developmental stage characterized by emerging cognitive and metacognitive abilities. At this stage, students are still developing higher-order thinking skills required for complex academic tasks such as research. According to recent findings, learners within this age bracket benefit significantly from scaffolded instruction and guided inquiry to enhance their research competencies and confidence (OECD, 2023). Furthermore, younger learners tend to exhibit variability in self-efficacy when engaging in unfamiliar academic tasks, which may reflect their perceptions of research (Khosravi et al., 2022).

Teacher Respondents

The distribution of teacher-respondents according to age group and teaching experience. In terms of age, the majority of respondents were younger teachers, with 58 (69.89%), while 25 (30.11%) were older teachers. This finding indicates that the teaching workforce in the study is predominantly younger educators who may still be in the early to mid stages of their professional careers. With respect to teaching experience, most of the respondents were identified as early-career teachers, comprising 57 respondents (68.67%), whereas 26 respondents (31.33%) were classified as more experienced teachers.

The results suggest that a large proportion of the teacher-respondents are still developing their instructional practices and professional expertise, particularly in handling academically demanding tasks such as research instruction. The predominance of younger and early-career teachers may indicate the need for continued professional support to facilitate research-related instruction, continuous professional development, and institutional support to strengthen pedagogical competence and confidence in facilitating research-related learning activities. Nevertheless, the presence of more experienced teachers provides valuable perspectives and professional insights that may contribute to more balanced instructional practices within the educational setting.

Table 2. *Profile of Teacher Respondents*

Age Group		
Younger Teachers	58	69.89%
Older Teachers	25	30.11%
Teaching Experience		
Early Career	57	68.67%
More Experienced Teachers	26	31.33%
Total	83	100%

In contrast, the teacher workforce is largely composed of early-career professionals who may still be developing their pedagogical expertise, particularly in specialized areas like research instruction. While teachers may possess foundational knowledge, their instructional confidence and experience in facilitating research processes may still be evolving. Recent studies indicate that novice teachers often require sustained professional development to effectively deliver complex, inquiry-based subjects (Darling-Hammond et al., 2021). Additionally, limited teaching experience has been associated with challenges in managing cognitively demanding tasks such as research supervision (Flores, 2022). These findings suggest that students require structured guidance; possibly, this may reflect developmental factors, highlighting the importance of scaffolded instruction in research education. This alignment may partly reflect why both groups exhibit moderate levels of confidence and engagement with

research. The interaction between learner readiness and teacher competence is crucial, as effective research instruction depends on both cognitive scaffolding and pedagogical expertise (OECD, 2024).

Perceptions of Student Respondents on Research as a Core Subject In Terms of Research Usefulness

Based on Table 3, student respondents demonstrate generally positive perceptions of research usefulness across all measured indicators. Higher mean scores are observed in items related to the future applicability of research skills ($M = 3.42$) and the usefulness of research for career development ($M = 3.39$). In contrast, a relatively lower mean is noted for the item on the indispensability of research in professional training ($M = 2.86$), although it remains within the agreement range. Moreover, the mean score ($M = 3.22$) indicates that students, on average, perceive research as a useful and relevant component of their academic experience.

Table 3. *Perceptions of Student Respondents on Research as a Core Subject in Terms of Research Usefulness*

Indicators	Mean	SD	Interpretation
Research is useful for my career.	3.39	0.73	Agree
Research is connected to my field of study.	3.21	0.81	Agree
The skills I have acquired in research will be helpful to me in the future.	3.42	0.71	Agree
Research should be indispensable in my professional training	2.86	0.89	Agree
Overall Mean	3.22	0.09	Agree

Students demonstrated a high perceived research usefulness, indicating recognition of research as a meaningful part of academic development. This perception may stem from their exposure to research tasks that enhance critical thinking, problem-solving, and evidence-based reasoning. According to Expectancy-Value Theory (Eccles & Wigfield, 2020), students are more likely to engage in academic activities when they perceive them as valuable and relevant to their goals. This finding is supported by Putwain et al. (2022), who found that perceived task value is significantly related to academic engagement and persistence among learners. Therefore, reinforcing the practical applications of research in real-life contexts may further strengthen students' motivation to actively participate in research-related activities without adequate instructional support. This posits that learners are more likely to engage in tasks they perceive as valuable. The high perceived usefulness among students may reflect their awareness of the relevance of research to their academic and future career goals. Moreover, this also implies that perceived value alone may not be sufficient to ensure deep engagement without adequate instructional support.

The present findings align with recent empirical work demonstrating that perceived usefulness is a strong grouping variable of sustained academic engagement (Putwain et al., 2022; Wang et al., 2023). Moreover, the consistently high usefulness ratings observed in this study may also reflect the standardized emphasis on research within the Senior High School curriculum, where research is positioned as a requirement for academic completion rather than as a purely exploratory endeavor. The students' perception of usefulness may arise not solely from intrinsic valuation but also from extrinsic academic expectations and performance pressures. As a result, perceived usefulness may coexist with underlying challenges, particularly when students recognize the importance of research but lack sufficient procedural understanding or mastery of skills. Respondents reported both high perceived usefulness and notable levels of research-related anxiety.

Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Research Usefulness

Table 4 shows that teachers reported an overall mean of 3.52, interpreted as "Strongly Agree," indicating a very high level of perceived usefulness of research. The highest-rated indicator was "Research is connected to my field of study" ($M = 3.57$), while all other indicators also received strong agreement.

Table 4. *Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Research Usefulness*

Indicators	Mean	SD	Interpretation
Research is useful for my career.	3.55	0.50	Strongly Agree
Research is connected to my field of study.	3.57	0.50	Strongly Agree
The skills I have acquired in research will be helpful to me in the future.	3.48	0.50	Agree
Research should be indispensable in my professional training	3.46	0.65	Agree
Overall Mean	3.52	0.05	Strongly Agree

The results show that teacher respondents exhibit a very high level of perceived research usefulness, indicating a strong recognition of research as an essential tool for improving instructional practices and professional development. Teachers may view research as a means of addressing classroom challenges through systematic

inquiry and reflective practice. This finding aligns with Borg (2021), who emphasized that teachers who value research are more likely to integrate evidence-based strategies into their teaching. Furthermore, Ulla and Perales (2021) reported that positive teacher perceptions toward research significantly enhance their engagement in scholarly and professional activities. Teachers' strong appreciation of research may be associated with fostering a culture of inquiry within the school environment.

Perceptions of Student Respondents on Research as a Core Subject in Terms of Research-Related Anxiety.

The findings indicate that student respondents experience a moderate to moderately high level of research-related anxiety, with an overall mean score of 2.80. Students particularly perceived research courses as difficult ($M = 2.97$) and anxiety-inducing ($M = 2.90$), suggesting that research is commonly experienced as a cognitively demanding academic task. Although students generally recognize the value of research, the results imply that many still struggle with procedural aspects such as academic writing, methodological requirements, and data analysis.

Table 5. *Perceptions of Student Respondents on Research as a Core Subject in Terms of Research-Related Anxiety*

Indicators	Mean	SD	Interpretation
Research courses make me anxious.	2.90	0.83	Agree
Research courses scare me.	2.66	0.91	Agree
Research courses are stressful.	2.64	0.79	Agree
Research courses make me nervous.	2.84	0.88	Agree
Research courses are difficult.	2.97	0.78	Agree
Overall Mean	2.80	0.06	Agree

The findings indicate that although students recognize the value of research, many still perceive research activities as cognitively demanding. Students may experience difficulties in areas such as research procedures, academic writing, and data analysis, which may contribute to anxiety toward research tasks. This finding may be interpreted through Control-Value Theory, which suggests that anxiety may emerge when learners perceive high task demands but feel limited control over their performance (Pekrun, 2021). Similarly, Putwain et al. (2022) reported that academic anxiety is often associated with perceived task difficulty and low confidence. These findings highlight the importance of structured guidance and continuous feedback to help students build confidence in conducting research.

Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Research-Related Anxiety

The findings indicate that teachers experience relatively high levels of research-related anxiety despite demonstrating a strong recognition of research usefulness and a positive predisposition toward research. Teachers reported higher descriptive mean scores in anxiety than students, suggesting that research-related responsibilities may be experienced as cognitively and professionally demanding. Although teachers demonstrated descriptively higher anxiety mean scores than students, the study did not directly test role-based differences between students and teachers. Therefore, these descriptive differences should be interpreted cautiously. Teachers reported descriptively higher anxiety scores than students' descriptive statistics. However, the study did not directly test role-based differences between students and teachers, suggesting that research-related responsibilities may be experienced as cognitively and professionally demanding. The highest-rated indicators were "Research courses are stressful" ($M = 3.47$) and "Research courses scare me" ($M = 3.46$), indicating that research-related tasks may still be perceived as challenging despite professional experience. However, because the study did not directly compare students and teachers through role-based inferential testing, these descriptive differences should be interpreted cautiously. The findings may reflect the multiple responsibilities associated with research instruction, including supervision, evaluation, and academic expectations related to research performance.

Table 6. *Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Research-Related Anxiety*

Indicators	Mean	SD	Interpretation
Research courses make me anxious.	3.35	0.53	Agree
Research courses scare me.	3.46	0.59	Agree
Research courses are stressful.	3.47	0.55	Agree
Research courses make me nervous.	3.37	0.58	Agree
Research courses are difficult.	3.42	0.61	Agree
Overall Mean	3.41	0.03	Agree

The findings indicate that teachers experience relatively high levels of research-related anxiety despite

demonstrating positive perceptions toward research. Although teachers demonstrated descriptively higher anxiety mean scores than students, the study did not directly perform inferential role-based comparisons between the two respondent groups. Therefore, these descriptive differences should be interpreted with caution and not treated as evidence of statistically significant group differences.

Teachers may still encounter challenges in conducting and facilitating research activities, particularly in areas such as academic writing, research supervision, and data analysis. This finding may be interpreted through Control-Value Theory, which suggests that anxiety may emerge when individuals perceive academic tasks as demanding while feeling limited control over task outcomes (Pekrun, 2021). Similarly, Ulla and Perales (2021) reported that teachers with stronger research experience and institutional support tend to demonstrate lower levels of research-related anxiety. The findings further suggest that professional experience alone may not be sufficient to reduce anxiety in the absence of adequate institutional and instructional support.

These findings highlight the importance of continuous professional development and research support initiatives to strengthen teachers' confidence and competence in research instruction.

Perceptions of Student Respondents on Research as a Core Subject in Terms of Positive Predisposition

Table 7 shows that students reported an overall mean of 2.80 (SD = 0.03), interpreted as "Agree," indicating a moderately positive predisposition toward research. The highest-rated item was "I find research courses interesting" (M = 2.94), while the lowest was "I love research courses" (M = 2.67).

Table 7. *Perceptions of Student Respondents on Research as a Core Subject in Terms of Positive Predisposition*

Indicators	Mean	SD	Interpretation
I enjoy my research course(s).	2.80	0.73	Agree
I love research courses.	2.67	0.81	Agree
I find research courses interesting.	2.94	0.79	Agree
Research courses are pleasant.	2.80	0.77	Agree
Overall Mean	2.80	0.03	Agree

The findings show that student respondents demonstrate a generally positive predisposition toward research, indicating that they maintain favorable attitudes despite the challenges involved. This positive outlook may be associated with their recognition of research as a valuable academic requirement and a tool for personal growth. Self-Determination Theory (Ryan & Deci, 2021) suggests that intrinsic motivation develops when learners feel competent and see relevance in their tasks. Consistent with this, Santos et al. (2023) found that positive attitudes toward research are related to higher engagement and persistence among students. The findings suggest that maintaining the need for targeted instructional support and professional development initiatives within the participating schools and providing encouragement can further strengthen students' confidence and willingness to engage in research. This suggests that enhancing students' engagement and providing supportive learning environments may further improve their research interest.

Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Positive Predisposition

Table 8 indicates that mean scores across all indicators range from 3.37 to 3.54, indicating generally high levels of agreement. The highest mean is observed in the item "I enjoy my research course(s)" (M = 3.54), while the lowest mean is recorded for "Research courses are pleasant" (M = 3.37). The overall mean score (M = 3.48) reflects the aggregated responses of teachers across all indicators.

Table 8. *Perceptions of Teachers Respondents on Research as a Core Subject in Terms of Positive Predisposition*

Indicators	Mean	SD	Interpretation
I enjoy my research course(s).	3.54	0.50	Strongly Agree
I love research courses.	3.46	0.55	Agree
I find research courses interesting.	3.47	0.49	Agree
Research courses are pleasant.	3.37	0.52	Agree
Overall Mean	3.48	0.02	Agree

The results reveal that teacher respondents demonstrate a very high level of positive predisposition toward research, reflecting strong professional attitudes toward its importance in education. Teachers may perceive

research as a valuable tool for continuous learning, instructional improvement, and professional advancement. This finding supports Borg (2021), who noted that teachers with positive research orientations are more likely to engage in reflective practice and action research. Additionally, a strong teacher predisposition toward research may be positively associated with students, as teachers model positive academic behaviors. This highlights the importance of sustaining institutional support for teacher-led research initiatives to further strengthen a research-oriented academic culture. Their positive disposition may be reflected in students by modeling engagement in research activities.

Test of Normality

The Shapiro–Wilk test was conducted to determine whether the data followed a normal distribution. The results showed a p-value of less than .001, which indicates that the data significantly deviated from a normal distribution. This means that the assumption of normality was not met. Consequently, non-parametric methods were considered appropriate for further analysis.

Table 9. *Test of Normality*

Tests	p-value	Interpretation
Shapiro-Wilk	<.001	Reject null hypothesis

Decision rule for normality: (p-value $\geq$ 0.05 = Data are normally distributed; p-value < 0.05 = Data are not normally distributed).

The results of the normality test, together with the ordinal nature of the Likert-scale responses and unequal subgroup distributions, supported the use of nonparametric statistical procedures in the study.

Significant Differences in Students' Perceptions of Research as a Core Subject When Grouped According to Age

Table 10 presents the results of the Mann–Whitney U test examining differences in students' perceptions of research as a core subject when grouped according to age. The findings revealed statistically significant differences in research usefulness ($U = 19626$, $p = .006$, $r = .158$), research-related anxiety ($U = 16257$, $p = .001$, $r = .303$), and positive research predisposition ($U = 15524$, $p = .001$, $r = .334$). Therefore, the null hypothesis was rejected for all variables. These findings indicate that students' perceptions of research vary across age groups in terms of perceived usefulness, anxiety, and positive predisposition toward research.

Research usefulness ($r = .158$) and positive predisposition toward research ($r = .334$) demonstrated negligible effect sizes, whereas research-related anxiety ($r = .303$) demonstrated a small effect size.

Table 10. *Significant Differences in Students' Perceptions of Research as a Core Subject When Grouped According to Age*

Variables	U-value	p-value	r	Decision
Research Usefulness	19626	.006	.158	Reject null hypothesis
Anxiety	16257	.001	.303	Reject null hypothesis
Positive research predisposition	15524	.001	.334	Reject null hypothesis

Decision rule for significance: (p-value $\geq$ 0.05 = Not Significant; p-value < 0.05 = Significant).

The findings imply that variations in students' perceptions may reflect developmental and experiential differences among age groups at the time the data were collected. The observed differences may reflect variations in academic exposure, maturity, learning experiences, or familiarity with research tasks among students of different ages. According to the OECD (2023), although standardized curricula promote similar learning experiences, differences in learner characteristics may still relate to students' attitudes, engagement, and perceptions toward academic tasks. This suggests that while students share common instructional experiences, age-related factors may also be associated with differences in how research is perceived and experienced.

Significant Differences in Teachers' Perceptions of Research as a Core Subject When Grouped According to Age

Table 11 presents the results of the Mann–Whitney U test examining differences in teachers' perceptions of research as a core subject when grouped according to age. The findings revealed no statistically significant differences in research usefulness ($U = 713$, $p = .902$, $r = .0172$), research-related anxiety ($U = 556$, $p = .105$, $r = .2200$), and positive research predisposition ($U = 675$, $p = .675$, $r = .0697$). Therefore, the null hypothesis was accepted for all variables. These findings indicate that teachers across age groups reported generally similar perceptions of research usefulness, anxiety, and positive predisposition.

In terms of effect size, research usefulness ($r = .0172$) and positive research predisposition ($r = .0697$) showed negligible effects, while research-related anxiety ($r = .2200$) demonstrated a small effect size. Although slight variations in anxiety levels may exist across age groups, these differences were not statistically significant. This suggests that age has minimal association with teachers' perceptions of research as a core subject.

Table 11. Significant Differences in Teachers' Perceptions of Research as a Core Subject When Grouped According to Age (younger teachers and older teachers)

Variables	U-value	p-value	r	Decision
Research Usefulness	713	.902	.0172	Accept null hypothesis
Anxiety	556	.105	.2200	Accept null hypothesis
Positive research Predisposition	675	.675	.0697	Accept null hypothesis

Decision rule for significance: ($p\text{-value} \geq 0.05$ = Not Significant; $p\text{-value} < 0.05$ = Significant).

The findings suggest that teachers across age groups generally demonstrate similar perceptions of research usefulness, anxiety, and positive predisposition toward research. These similarities may reflect shared professional responsibilities, instructional expectations, and institutional environments within the participating schools. Darling-Hammond et al. (2021) emphasized that teachers' professional beliefs and practices are often shaped more by workplace experiences and professional development opportunities than by demographic characteristics such as age. Similarly, OECD (2024) reported that institutional conditions and professional support may contribute to teachers' attitudes and engagement in academic tasks. Moreover, the findings suggest that age may have a limited association with teachers' perceptions toward research.

Significant Differences in Teachers' Perceptions of Research as a Core Subject When Grouped According to Teaching Experience

Table 12 presents the results of the Mann-Whitney U test examining differences in teachers' perceptions of research as a core subject when grouped according to teaching experience. The findings revealed no statistically significant differences in research usefulness ($U = 741$, $p = .884$, $r = .0198$), research-related anxiety ($U = 569$, $p = .062$, $r = .2480$), and positive research predisposition ($U = 643$, $p = .255$, $r = .1501$). Therefore, the null hypothesis was accepted for all variables. These findings indicate that teachers with varying levels of teaching experience demonstrate similar perceptions of research usefulness, anxiety, and positive predisposition toward research.

Research usefulness demonstrated a negligible effect size ($r = .0198$), whereas research-related anxiety ($r = .2480$) and positive predisposition toward research ($r = .1501$) demonstrated small effect sizes. Although slight variations in anxiety and positive predisposition toward research may exist between less experienced and more experienced teachers, these differences were not statistically significant. This suggests that teaching experience has minimal association with teachers' perceptions of research as a core subject.

Table 12. Significant Differences in Teachers' Perceptions of Research as a Core Subject When Grouped According to Teaching Experience (early career and more experienced teachers)

Variables	U-value	p-value	r	Decision
Research Usefulness	741	.884	.0198	Accept null hypothesis
Anxiety	569	.062	.2480	Accept null hypothesis
Positive research Predisposition	643	.255	.1501	Accept null hypothesis

Decision rule for significance: ($p\text{-value} \geq 0.05$ = Not Significant; $p\text{-value} < 0.05$ = Significant).

The findings indicate that teachers with varying levels of teaching experience generally reported similar perceptions of research usefulness, anxiety, and positive predisposition toward research. These similarities may reflect shared instructional responsibilities, curricular expectations, and institutional environments within the participating schools. OECD (2024) noted that institutional support and access to professional learning opportunities may have stronger associations with teacher attitudes and engagement than demographic characteristics alone. Similarly, Darling-Hammond et al. (2021) emphasized the importance of professional learning opportunities in shaping teachers' instructional practices and perceptions. Overall, the findings suggest that teaching experience may have a limited association with teachers' perceptions of research.

Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the study was limited to selected public Senior High Schools in Pasig City; therefore, the findings may not be generalized to all

educational contexts or regions. Second, although subgroup categories among teacher respondents were collapsed to improve statistical stability, some subgroup distributions remained unequal, which may have affected the sensitivity of inferential analyses. Third, the study relied on self-reported responses, which may relate to personal bias and subjective interpretation. Finally, the study employed a cross-sectional descriptive-comparative design, which limits the interpretation of findings to observed associations at a single point in time and does not permit causal or predictive conclusions.

Conclusion

This study contributes to the understanding of research education by examining the cognitive, emotional, and motivational perceptions of Senior High School students and teachers toward research as a core subject within selected public schools in Pasig City. The findings established that both students and teachers generally recognize the usefulness and relevance of research in academic learning and professional development, while also demonstrating positive predisposition toward research. Despite these favorable perceptions, research-related anxiety remained evident among both groups, indicating that research continues to be experienced as a demanding academic and instructional task.

The study further revealed that students' perceptions significantly differed according to age, particularly in terms of research usefulness, anxiety, and positive predisposition toward research, suggesting that age-related differences may be associated with variations in how students perceive research activities. In contrast, teachers demonstrated relatively consistent perceptions regardless of age and teaching experience, implying that common professional environments and instructional responsibilities may contribute to similar teacher perceptions of research more strongly than demographic characteristics.

The findings may provide practical insights for instructional support and research-related learning initiatives within Senior High School education. Schools may consider strengthening scaffolded instruction, research mentoring, and academic support systems to help students develop greater confidence and reduce anxiety in conducting research. Likewise, continuous professional development programs, research capability training, and institutional support mechanisms may help teachers manage research-related demands more effectively and strengthen research support practices within the participating educational settings.

Future studies may explore additional factors associated with research engagement, such as research self-efficacy, institutional climate, and instructional strategies, using qualitative or longitudinal approaches to deepen understanding of how research perceptions develop over time.

Contributions of Authors

Author 1: Conducted data gathering, performed data analysis and interpretation, carried out the initial and final revisions of the manuscript, and reviewed the overall content of the paper.
Author 2: Contributed to the writing of the introduction and assisted in the language editing and content review of the manuscript.
Author 3: Reviewed and evaluated the revised contents of the paper to ensure accuracy, clarity, and coherence.
Author 4: Assisted in the face-to-face data gathering procedures and contributed to the language editing of the manuscript.
Author 5: Participated in the face-to-face data gathering procedures and provided support during the data collection process.
Author 6: Contributed to the proofreading, language refinement, and overall review of the manuscript.

All authors collaboratively conceptualized the study and contributed to the proposal writing, manuscript preparation, and completion of the research study.

Funding

The authors received no financial support from any funding agency, institution, or organization for the conduct of this research.

Conflict of Interests

The authors declare no conflicts of interest regarding the publication of this study.

Acknowledgment

The researchers would like to express their sincere gratitude to the Schools Division Superintendent of Pasig City, Dr. Romela M. Cruz, and the entire Division of Pasig City for granting permission and providing support in the conduct of data gathering in public schools within the city. The researchers also extend their appreciation to the school administrators, staff, teachers, and students who willingly participated and contributed to the successful completion of this study.

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