

The Influence of Grit on Intuition among Chinese Arts Students

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ABSTRACT

Arts students often reach a judgement before they can explain how they arrived at it. A painter may sense that a colour relationship is unsettled, while a craft student may recognise from touch that a material is not ready for the next stage. Such responses are commonly described as intuitive. This study examined the relationship between grit and self-reported intuition among Chinese arts students. A cross-sectional survey was conducted in three higher-education institutions in Tianjin, Hebei, and Shandong. Of 730 questionnaires collected, 15 incomplete cases and three outliers were removed, leaving 712 valid responses. Grit was measured with the 12-item Grit Scale, and intuition was assessed with the Types of Intuition Scale. SmartPLS 4 was used to evaluate the hierarchical measurement model, while Pearson correlation and simple linear regression were used to examine the focal relationship. Grit and intuition were moderately and positively correlated ($r = .485$, 95% CI [.427, .539], $p < .001$). Grit also significantly predicted intuition in the two-variable regression model ($\beta = .485$, $t = 14.778$, $p < .001$), accounting for 23.5% of the variance. The findings suggest that sustained interest and effort are meaningfully associated with how arts students report using holistic, inferential, and affective intuition. Because the data were collected at a single point in time, the results should be interpreted as evidence of statistical association rather than causation or developmental change.

Keywords: grit; intuition; arts students; arts education; China

INTRODUCTION

In an arts classroom, not every decision follows a visible sequence of rules. A student working with ink may know that another brushstroke will make the image heavy. A learner handling dyed cloth may notice from colour depth and surface moisture that the process needs more time. A designer may reject a layout before identifying the precise source of imbalance. These judgements arrive quickly, but they are not necessarily random. They may draw on patterns that have become familiar through repeated encounters with materials, images, sound, movement, and feedback (Dane & Pratt, 2007; Pretz et al., 2014).

Intuition is especially relevant in arts learning because many tasks remain partly open-ended. Technical standards matter, yet there is rarely one correct route to an expressive result. Students must often decide when to continue, when to stop, what to adjust, and which feature deserves attention. Expertise research suggests that rapid judgement becomes more dependable when learners work in settings that contain recognisable regularities and when they receive feedback about the consequences of their choices (Kahneman & Klein, 2009). Studio teaching can create these conditions, although simply spending time on a task does not guarantee sound judgement.

The long duration of artistic development raises a second issue. Progress is uneven. A student may repeat a movement many times without seeing immediate improvement, revise a composition several times, or begin again after a material failure. Grit describes the tendency to maintain interest and effort toward long-term goals (Duckworth et al., 2007). Consistency of interest concerns continuity of commitment, while perseverance of



effort concerns continued work despite difficulty (Duckworth & Quinn, 2009). Both features appear relevant to arts education, where learning often depends on returning to similar problems over an extended period.

The connection between grit and intuition has received little direct attention. A student who remains engaged in one artistic field may encounter more examples, errors, and subtle distinctions. Over time, these encounters can make some cues easier to recognise. Yet the relationship should not be overstated. Grit does not guarantee useful experience, and intuition is not always accurate. Repetition without feedback may reinforce an ineffective response, while confidence can be mistaken for expertise. The question is therefore not whether persistence automatically creates intuition, but whether students who report greater grit also report stronger intuitive tendencies.

Most research on grit has examined educational attainment, persistence, or performance, whereas intuition has been studied mainly in judgement and decision-making contexts. Arts students offer a distinctive setting because their learning involves embodied, visual, material, and affective knowledge that is not always easy to put into words. Chinese arts education also places considerable emphasis on sustained technical training, making it a useful context in which to examine the two constructs together.

This study investigates the relationship between grit and intuition among Chinese arts students. The analysis is deliberately focused: only grit and intuition are included in the explanatory model. The term influence in the title refers to statistical prediction in a cross-sectional design, not to proven temporal causation. The purpose is to establish the direction and magnitude of the relationship and to consider what that relationship may mean for arts learning.

LITERATURE REVIEW

Conceptualization of Grit

Grit was introduced as perseverance and passion for long-term goals (Duckworth et al., 2007). The original scale contains two six-item dimensions. Consistency of interest reflects the extent to which a person remains committed to relatively stable goals, whereas perseverance of effort reflects continued work when progress is slow or obstacles arise. The distinction matters because staying interested and continuing to work are related but not identical experiences.

The popularity of grit has sometimes led to claims that go beyond the available evidence. Meta-analytic work indicates that its association with performance is generally modest, and the two dimensions do not always contribute equally across settings (Credé et al., 2017). Grit is therefore best treated as one aspect of long-term engagement rather than a complete account of success. In arts education, this more limited interpretation is useful. A student may be willing to continue, but the value of that effort still depends on the task, the quality of guidance, and the opportunity to learn from outcomes.

Research in Asian samples has also shown that the expression of long-term commitment is shaped by culture and educational context (Datu et al., 2017, 2018). Studies using Chinese samples generally support a multidimensional view of grit, although the balance between consistency of interest and perseverance of effort can vary (Zhong et al., 2018). The present study therefore treats grit as a higher-order construct while retaining both dimensions in the measurement model.

Grit in Chinese Arts Education

Arts learning develops through a combination of explanation, observation, making, rehearsal, correction, and reflection. A principle understood in words may still be difficult to apply with a brush, carving tool, instrument, camera, or textile material. Students often need to revisit the same type of problem before they can respond with



control. Grit is relevant to this process because it concerns whether the learner remains engaged long enough to notice improvement that may initially be small.

Traditional arts and crafts make the role of sustained engagement particularly visible. The right pressure, timing, surface condition, colour density, or material tension cannot always be communicated through verbal instruction alone. A teacher can point out what to watch, but the learner must still encounter those cues in action. Continued work gives students more occasions to compare intention with result. It can also expose them to variation: the same technique may behave differently when the material, temperature, scale, or sequence changes.

Persistence, however, is educationally useful only when it is connected to information. Repeating an incorrect action without recognising the problem may make the error more stable. For this reason, grit should not be understood as endurance for its own sake. In a productive studio environment, sustained effort is accompanied by demonstration, critique, comparison, and revision. The learner does not simply continue; the learner continues while adjusting.

Intuition among Arts Students

Intuition refers to judgements that arise rapidly and without a fully articulated chain of conscious analysis (Dane & Pratt, 2007; Hodgkinson et al., 2008). It is not a single process. Some intuitive responses appear as an overall impression, some are closely tied to feeling, and others reflect knowledge that was once deliberate but has become automatic through repeated use.

The Types of Intuition Scale distinguishes holistic, inferential, and affective intuition (Pretz & Totz, 2007; Pretz et al., 2014). Holistic intuition involves integrating several features into a general sense of the situation. Inferential intuition relies on learned distinctions that can be accessed with little conscious effort. Affective intuition draws on emotional or bodily cues. In arts learning, these forms can overlap. A student may respond to the overall balance of an image, recognise a technical problem from previous experience, and feel that a particular solution is expressive, all within the same decision.

It is important to separate intuitive tendency from intuitive accuracy. A student may report relying on intuition without consistently making sound decisions. Reliable intuition is more likely when a field offers patterns that can be learned and when feedback is available (Kahneman & Klein, 2009). The present study measures how students describe their intuitive tendencies. It does not assess whether their rapid judgements were judged correct by teachers or experts.

Theoretical Foundations: Grit, Experience, and Intuitive Judgement

The proposed relationship can be understood by linking long-term engagement with the accumulation of domain experience. Expertise research shows that improvement requires more than time, yet repeated, focused activity provides opportunities to connect cues with consequences (Ericsson et al., 1993; Macnamara et al., 2014). Grit may help some learners remain present for those opportunities. It does not supply the knowledge itself, but it may support the continuity through which knowledge is built.

Tacit knowledge offers a complementary explanation. Polanyi (1966) observed that people can know more than they can state, while Schön (1983) described professional learning as reflection in and on action. In artistic work, a learner may recognise that a form is unstable or a material has reached the right condition without being able to list every cue involved. Such recognition can emerge when perceptual and procedural knowledge becomes integrated through experience.



This account suggests a plausible route from grit to intuition, but the route remains indirect. Grit may keep students engaged; engagement may increase contact with relevant patterns; and those patterns may later be accessed quickly. The present study tests only the relationship at the ends of that sequence. It does not measure the experiences that may connect them.

The Relationship between Grit and Intuition

Direct empirical evidence on grit and intuition is limited. Their connection is inferred from what is known about long-term goal pursuit and experience-based judgement. Consistency of interest may allow students to stay within an artistic field long enough to build a detailed store of examples. Perseverance of effort may increase the likelihood that they return after an unsuccessful attempt and examine what happened. Both forms of continuity could be associated with stronger intuitive tendencies.

The expected relationship is not necessarily large. Intuition develops within a wider learning history that includes exposure, instruction, feedback, and the nature of the task. Grit may contribute by helping students remain engaged, but it cannot replace those conditions. A moderate relationship would therefore be theoretically meaningful without implying that grit is the main source of intuitive judgement.

Research Gaps and Purpose of This Study

Two gaps guide the study. First, grit has rarely been examined in relation to intuition, even though both constructs may be relevant to learning that unfolds over a long period. Second, evidence is limited in higher arts education, where many judgements depend on embodied and material experience. The lack of research is particularly noticeable among Chinese arts students.

The study therefore examines whether grit is positively related to intuition in a sample of 712 Chinese arts students. It evaluates the measurement quality of the two constructs, describes their levels, and estimates the strength of their relationship through correlation and simple regression. No additional psychological variables are included in the model.

METHOD

Research Design

A cross-sectional quantitative correlational design was used. The design was appropriate because the study sought to examine naturally occurring differences in grit and intuition without manipulating either construct. Data were collected through a structured questionnaire. SmartPLS 4 was used to evaluate the hierarchical measurement model for grit and intuition. The focal relationship was examined using Pearson correlation and simple linear regression based on the verified construct scores. With one predictor, the standardised regression coefficient is equivalent to the correlation coefficient. This focused analysis keeps the statistical interpretation tied to the two variables named in the title.

Participants

Participants were undergraduate arts students from three higher-education institutions in Tianjin, Hebei, and Shandong, China. The institutions offered programmes related to visual arts, design, traditional arts, and crafts. A total of 730 questionnaires were collected. Fifteen questionnaires containing missing data were removed, followed by three extreme outliers. The final sample comprised 712 students.

The sample included 235 men (33.0%) and 477 women (67.0%). In terms of age, 132 students (18.5%) were 18 years or younger, 423 (59.4%) were aged 19-20, and 157 (22.1%) were 21 or older. There were 208 first-year

students (29.2%), 269 second-year students (37.8%), 201 third-year students (28.2%), and 34 fourth-year students (4.8%).

Measures

Grit Scale

Grit was measured using the original 12-item Grit Scale developed by Duckworth et al. (2007). The scale contains two six-item dimensions: consistency of interest and perseverance of effort. Consistency of interest reflects the stability of an individual's goals and interests over time, whereas perseverance of effort refers to continued effort in the face of difficulty or slow progress. Responses were recorded on a five-point scale ranging from 1 (not like me at all) to 5 (very much like me). Negatively worded items were reverse-scored before the construct scores were calculated. In the hierarchical measurement model, consistency of interest and perseverance of effort had higher-order loadings of .897 and .862, respectively.

Types of Intuition Scale

Intuition was measured with the Types of Intuition Scale (Pretz et al., 2014). The instrument covers holistic, inferential, and affective intuition. Participants responded on a five-point scale from 1 (definitely false) to 5 (definitely true). Negatively worded items were reverse-scored. The higher-order loadings were .834 for holistic intuition, .861 for inferential intuition, and .871 for affective intuition.

Procedure

Questionnaires were distributed through classroom and institutional channels to students enrolled in relevant arts programmes and courses. Participation was voluntary, and informed consent was obtained before respondents completed the questionnaire. No names, identification numbers, telephone numbers, or other direct personal identifiers were collected. Participants were informed that their responses would be used only for academic research. Anonymity, confidentiality, and aggregate reporting were used as procedural safeguards to reduce evaluation apprehension and socially desirable responding.

Data Screening and Preparation

The initial dataset consisted of 730 responses. Fifteen cases containing missing values on key items were removed. Subsequent boxplot inspection identified three outliers, which were excluded prior to data analysis. Skewness and kurtosis values for all study variables ranged between -3 and $+3$, indicating no serious departures from normality (Hair et al., 2022). The final sample comprised 712 valid responses.

Data Analysis Strategy

Analysis proceeded in five stages. First, participant characteristics and construct-level descriptive statistics were summarised. Second, the measurement model was assessed through outer loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT). Third, potential common method bias was examined using Harman's single-factor test based on all 41 item-level measures. Fourth, Pearson correlation and simple linear regression were used to examine the direction, magnitude, and statistical strength of the relationship between grit and intuition. Fifth, regression diagnostics were conducted to examine linearity, homoscedasticity, residual normality, influential observations, and multicollinearity. Because the diagnostic results indicated heteroscedasticity and residual non-normality, HC3 heteroscedasticity-consistent standard errors were used as an additional robustness check. Statistical significance was evaluated at $p < .05$, and 95% confidence intervals were reported (MacKinnon & White, 1985).



Common Method Bias Assessment

Because grit and intuition were measured through self-report items in the same questionnaire, potential common method bias was assessed using Harman's single-factor test. All 41 measurement items were entered simultaneously into an unrotated principal component analysis. The first-factor variance was then examined to determine whether a single factor accounted for the majority of the covariance among the measures.

RESULTS

Overview of Analytical Approach

The results begin with the sample profile and measurement quality, followed by descriptive statistics and the focal relationship. All reported model statistics refer only to grit and intuition.

Table 1. Demographic characteristics of the participants (N = 712).

Characteristic	Category	n	%
Gender	Male	235	33.0
	Female	477	67.0
Age	18 years or below	132	18.5
	19-20 years	423	59.4
	21 years or above	157	22.1
Year of study	First year	208	29.2
	Second year	269	37.8
	Third year	201	28.2
	Fourth year	34	4.8

Measurement Model Evaluation

The measurement results were acceptable for both constructs. Consistency of interest and perseverance of effort loaded strongly on grit. Holistic, inferential, and affective intuition also showed strong higher-order loadings. Across the five lower-order dimensions, Cronbach's alpha ranged from .820 to .889, composite reliability from .833 to .905, and AVE from .589 to .695. The HTMT value between grit and intuition was .626, below the .85 criterion, indicating that the two constructs were empirically distinct.

Table 2 Descriptive statistics and measurement quality. CR = composite reliability; AVE = average variance extracted. Reliability statistics are reported for the lower-order dimensions in the hierarchical model.

Construct / dimension	M	SD	Higher-order loading	Cronbach alpha	CR	AVE
Grit	3.3942	0.8500				
Consistency of interest	3.4192	0.9556	.897	.884	.886	.600
Perseverance of effort	3.3694	0.9726	.862	.858	.864	.589
Intuition	3.4464	0.8056				



Holistic intuition	3.4659	1.0402	.834	.889	.905	.647
Inferential intuition	3.4215	1.0088	.861	.869	.864	.695
Affective intuition	3.4493	0.8993	.871	.820	.833	.609

Common Method Bias

Harman's single-factor test showed that the first unrotated factor accounted for 34.38% of the total variance. Because this value was below the conventional 50% threshold, no single factor accounted for the majority of the covariance among the 41 grit and intuition items. This finding suggests that common method bias was unlikely to be the sole explanation for the observed relationship. Nevertheless, the test does not completely eliminate the possibility of method-related bias.

Descriptive Characteristics of Grit and Intuition

The mean grit score was 3.3942 (SD = 0.8500), while the mean intuition score was 3.4464 (SD = 0.8056). Within grit, consistency of interest was slightly higher than perseverance of effort. Among the intuition dimensions, holistic intuition had the highest mean, followed closely by affective and inferential intuition. The differences were small and were not subjected to separate significance tests.

Relationship between Grit and Intuition

Grit was positively related to intuition, $r = .485$, 95% CI [.427, .539], $p < .001$. The coefficient represents a moderate association. Students who reported stronger continuity of interest and effort also tended to report greater use of holistic, inferential, and affective intuition.

Table 3 Pearson correlation between grit and intuition.

Relationship	Pearson r	95% CI	p value	Interpretation
Grit - Intuition	.485	[.427, .539]	< .001	Moderate positive relationship

Predictive Result

Simple linear regression showed that grit significantly predicted intuition, $B = .460$, $SE = .031$, $\beta = .485$, $t = 14.778$, $p < .001$. The 95% confidence interval for the unstandardised coefficient was [.399, .521]. The model explained 23.5% of the variance in intuition ($R^2 = .235$; adjusted $R^2 = .234$), $F(1, 710) = 218.38$, $p < .001$. In practical terms, a one-point increase in grit was associated with an estimated .46-point increase in intuition on the five-point scale.

Table 4 Simple linear regression predicting intuition from grit. Model statistics: $R^2 = .235$; adjusted $R^2 = .234$; $F(1, 710) = 218.38$, $p < .001$.

Predictor	B	SE	Standardised β	t	p	95% CI for B
Grit	.460	.031	.485	14.778	< .001	[.399, .521]

Regression Diagnostics and Robustness Check

Regression diagnostics indicated some departures from the classical regression assumptions. The Breusch-Pagan test indicated heteroscedasticity, $LM = 35.96$, $p < .001$, while the Jarque-Bera test indicated that the residuals departed from normality, $JB = 730.56$, $p < .001$. The Ramsey RESET test also suggested a small nonlinear component, $F = 9.33$, $p = .002$. As shown in Figure 1, the standardised residuals were not evenly

dispersed across the range of predicted intuition scores, providing further evidence of heteroscedasticity. No observation had a Cook's distance greater than 1, with a maximum value of .041, and multicollinearity was not a concern because the model contained only one predictor ($VIF = 1.00$). Therefore, HC3 heteroscedasticity-consistent standard errors were used as a robustness check.

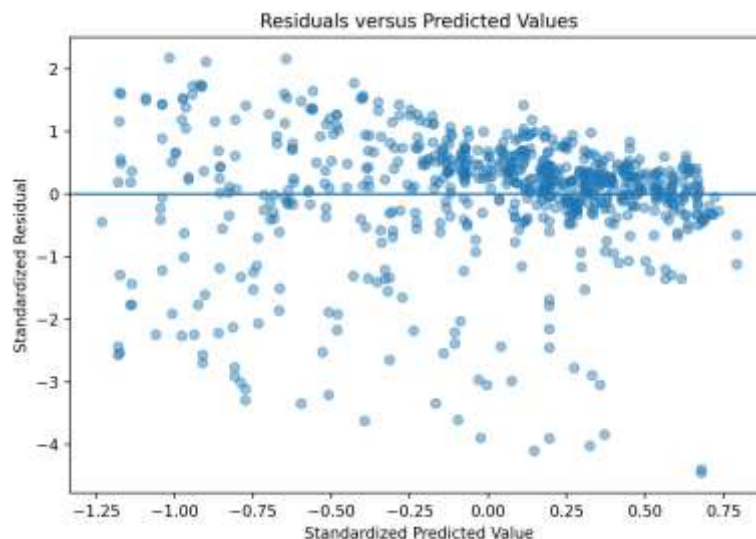
The association remained statistically significant after the application of HC3 robust standard errors, $\beta = .484$, robust $SE = .040$, $t = 11.97$, $p < .001$, 95% CI [.405, .563]. These results indicate that the substantive conclusion remained unchanged despite the identified departures from the classical regression assumptions.

Table 5 Regression Diagnostics and HC3 Robustness Analysis

Diagnostic	Result	Interpretation
Linearity	Ramsey RESET: $F = 9.33$, $p = .002$	Small nonlinear component detected
Homoscedasticity	Breusch–Pagan LM = 35.96, $p < .001$	Heteroscedasticity detected
Residual normality	Jarque–Bera = 730.56, $p < .001$	Residuals departed from normality
Influential observations	Maximum Cook's D = .041	No extremely influential case
Multicollinearity	$VIF = 1.00$	No multicollinearity concern
HC3 robustness check	$\beta = .484$, $SE = .040$, $t = 11.97$, $p < .001$, 95% CI [.405, .563]	Main conclusion remained unchanged

Note. The diagnostic and robustness analyses used one-component PLS construct scores generated from the same 12 grit and 29 intuition indicators. The resulting association ($r = .484$, $R^2 = .234$) closely reproduced the primary analysis ($r = .485$, $R^2 = .235$).

Figure 1 Standardised residuals plotted against predicted intuition scores



Note. The residual pattern indicated unequal variance across parts of the fitted-value range. HC3 heteroscedasticity-consistent standard errors were therefore used in the robustness analysis.

SUMMARY OF RESULTS

The final analysis included 712 Chinese arts students. The measurement model supported the reliability and validity of grit and intuition as distinct higher-order constructs. Grit and intuition were positively and significantly related, with grit accounting for 23.5% of the variance in intuition in the primary two-variable model. Harman's single-factor test showed that no single factor accounted for the majority of variance among the measures. Although the regression diagnostics indicated heteroscedasticity, residual non-normality, and a small nonlinear component, the relationship remained statistically significant when HC3 robust standard errors were applied. The findings therefore support a meaningful association while leaving substantial variation in intuition unexplained.

DISCUSSION

The study identified a moderate positive association between grit and self-reported intuition. Students who described themselves as more consistent in their interests and more willing to continue through difficulty also tended to report stronger intuitive tendencies. However, the cross-sectional design does not establish that grit causes intuition or precedes its development. The coefficient indicates that the two constructs varied together within this sample and that grit statistically predicted intuition in the regression model. The reverse direction is also possible: students who perceive themselves as more intuitive may be more willing to remain engaged in artistic learning. Therefore, the findings should be understood as correlational rather than causal. The robustness analysis confirmed that this association remained statistically significant after adjustment for heteroscedasticity.

Interpretation of Major Findings

Grit and Continued Engagement in Arts Learning

One explanation is that grit helps students remain engaged with recurring artistic problems. A learner who continues working with ink, clay, textiles, carving, music, or digital form encounters variations that are difficult to capture in a single lesson. The material does not behave identically each time, and the learner gradually notices which differences matter. This repeated contact can make relevant cues easier to recognise. This interpretation is also consistent with recent research linking grit to students' learning regulation. Guo et al. (2023) found that grit was an important predictor of self-regulated learning strategy use among students in a Chinese cultural context. Although their study focused on language learning, the finding is relevant to arts education because studio work similarly requires learners to plan, monitor, revise, and persist through extended tasks.

Consistency of interest and perseverance of effort contribute to that continuity in different ways. Stable interest keeps attention within a domain, while perseverance supports return after frustration or failure. Neither guarantees learning, but together they may increase the likelihood that students stay with a problem long enough to compare outcomes and refine their responses. The strong higher-order loadings in the present model indicate that both dimensions were meaningful parts of grit in this sample. This account is consistent with Kahneman and Klein's (2009) argument that intuition becomes more dependable when learners repeatedly encounter recognisable patterns and receive timely feedback. It also supports the view that rapid judgement is not necessarily separate from learning; rather, it can represent experience that has become increasingly accessible and automatic.

Intuition as Experience-Based Judgement

The finding also fits an experience-based view of intuition. Rapid artistic judgement can condense many earlier encounters. A student may recognise an unbalanced composition because similar relationships have been seen and corrected before. A craft learner may sense that a material is ready because colour, resistance, temperature,

or texture now form a familiar pattern. The final judgement feels immediate even though it rests on a history of learning.

This interpretation does not mean that every intuitive response is sound. The scale measures students' reported tendency to use intuition, not the accuracy of particular decisions. In teaching, an intuitive judgement becomes more useful when it can be checked against the work itself, discussed in critique, and revised when necessary. Intuition and analysis are therefore better viewed as complementary than as competing ways of thinking.

Meaning of the Effect Size

Grit explained 23.5% of the variance in intuition, leaving 76.5% outside the focused model. The result is educationally meaningful, but it also demonstrates that intuitive judgement cannot be explained through perseverance and sustained interest alone. Creativity may shape students' ability to generate and recognise novel possibilities, while reflective practice may help them evaluate and refine their initial judgements. Accumulated studio experience may increase exposure to recurring perceptual and material patterns, and instructor feedback may help students distinguish informed intuition from unsupported confidence. These variables were not included in the present model and should be examined in future research. Grit is therefore best understood as one relevant correlate within a wider system of individual, experiential, and instructional influences. This interpretation is consistent with Macnamara et al. (2014), who found that repeated practice explains only part of the variation in performance across learning domains.

Theoretical Implications

The study extends grit research into a form of judgement that is central to arts learning. Grit is usually discussed in relation to persistence or attainment. Its association with intuition suggests that long-term engagement may also relate to how students access and organise experience.

The findings also bring grit and tacit knowledge into the same discussion. Grit concerns continuity of engagement; tacit knowledge concerns what is learned but not always easily verbalised. The present data do not demonstrate the process between them, yet the moderate relationship offers a clear reason for future longitudinal work that follows students across repeated studio tasks.

Practical Implications

For arts educators, the result supports the value of sustained projects rather than a rapid sequence of unrelated exercises. When students return to a material, technique, or visual problem across several stages, they can notice differences that would be easy to miss in a single encounter. Continuity is particularly useful when the teacher makes the changing cues visible through demonstration and comparison. Research on studio pedagogy similarly describes design learning as an iterative process involving project work, peer interaction, evaluation, and reflection (Hettithanthri & Hansen, 2022). These practices provide a context in which sustained effort can be converted into increasingly informed judgement rather than becoming simple repetition.

Feedback remains essential. Telling students simply to persist risks turning grit into a moral slogan. More useful teaching connects effort with evidence: what changed, what failed, what cue was overlooked, and what should be tried next. Critique sessions, process records, and side-by-side comparisons of earlier and later work can help students link an initial feeling to observable features of the work. Recent reviews of design-studio critique also indicate that well-structured critique can promote communication, critical thinking, teamwork, and a more supportive studio culture (Ezennia & Agbonome, 2025). Equally important, feedback should be provided while students are still engaged in the creative process rather than only after a final product has been completed. Timely comments encourage students to adjust their decisions, compare alternative solutions, and recognise patterns that may later become part of their intuitive judgement. Over time, this cycle of practice, feedback,



revision, and reflection can gradually strengthen students' confidence in making informed artistic decisions rather than relying solely on instinct. Recent evidence also shows that critique can help students make tacit knowledge more explicit. Fleischmann (2025) found that peer critique enabled design students to exchange tacit and explicit knowledge and use recorded feedback for later reflection. This supports the present argument that intuitive responses become more educationally valuable when students are encouraged to articulate, examine, and revise them.

Students can also be encouraged to revisit intuitive choices after the immediate decision. A brief note explaining why a colour, material, form, or movement felt right can make tacit judgement more discussable. The aim is not to force every decision into a verbal formula. It is to help learners test whether the judgement reflects accumulated experience or only first impression.

Methodological Implications

The focused two-variable design improves interpretability. The correlation, regression coefficient, and explained variance all refer directly to grit and intuition, without relying on a wider structural model. The hierarchical measurement model also preserves the internal structure of both constructs. Future studies could build on this design by testing the two grit dimensions against the three intuition dimensions, but such comparisons should be specified in advance and supported by an appropriate model.

Limitations and Directions for Future Research

The cross-sectional design limits conclusions about temporal direction. Although grit was positively associated with intuition, it remains unclear whether persistence supports the development of intuitive judgement or whether students who feel more intuitive are also more willing to remain engaged. Longitudinal studies measuring grit and intuition at multiple stages of artistic training would provide stronger evidence regarding temporal order and within-student change.

A second limitation concerns the measurement of intuition. In the present study, intuition was assessed through self-reported tendencies rather than direct observation of intuitive performance. Although self-report measures provide valuable information about students' perceptions of their own judgement processes, they cannot determine whether these intuitive responses correspond to accurate or effective artistic decisions. Future studies could combine questionnaires with objective assessments, such as expert ratings of artistic decisions, studio observations, timed creative judgement tasks, material-recognition tasks, evaluations of students' artworks, teacher assessments, or think-aloud protocols. These approaches would provide a more comprehensive understanding of whether students who report stronger intuition also demonstrate more accurate and informed artistic judgement in authentic creative contexts.

The sample was drawn from three higher-education institutions in China and may not represent the full diversity of arts education. The relationship between grit and intuition may differ across disciplines that emphasise visual, material, bodily, musical, or performative forms of judgement. Future studies should therefore include students from painting, design, ceramics, sculpture, music, performance, digital arts, and traditional crafts. Broader sampling across regions, institutional types, levels of training, and national or cultural contexts would help determine whether the observed relationship is specific to Chinese arts education or generalises to other learning environments.

Future research should use longitudinal and mixed-method designs to examine how grit and intuition change across stages of artistic training. Quantitative measures could be combined with studio observations, student interviews, reflective journals, teacher feedback records, and portfolio analysis. Future models should also test creativity, reflective practice, accumulated studio experience, and instructor feedback as additional predictors,



mediators, or contextual conditions. These approaches would provide a stronger account of the processes through which sustained engagement becomes associated with increasingly informed artistic judgement.

CONCLUSION

This study examined the relationship between grit and intuition among 712 Chinese arts students. The findings showed a moderate and positive association between the two constructs, with grit explaining 23.5% of the variance in intuition. Students who reported greater consistency of interest and perseverance of effort also tended to report stronger holistic, inferential, and affective intuition. In other words, students who were more willing to stay with long-term artistic goals and continue working through difficulty were also more likely to describe themselves as relying on intuitive ways of thinking and judging.

This relationship is especially meaningful in arts education, where progress often develops slowly and cannot always be captured through written knowledge or immediate outcomes. Artistic judgement is frequently shaped through repeated contact with materials, techniques, forms, sounds, movements, and visual problems. A student may gradually learn when a colour has become too heavy, when a composition needs restraint, or when a material has reached the right condition. These judgements may appear immediate, but they are often rooted in earlier attempts, mistakes, corrections, and comparisons. Grit may help students remain involved in this long process of learning long enough for such experience to accumulate.

At the same time, the findings should not be interpreted to mean that persistence automatically produces good intuition. Grit explained only part of the variation in intuition, and the study measured students' self-reported intuitive tendencies rather than the accuracy of their artistic decisions. A student can persist without improving if practice is repetitive, poorly guided, or disconnected from feedback. For this reason, the educational value of grit depends on the conditions in which persistence occurs. Continued effort becomes more meaningful when students are able to compare outcomes, receive thoughtful guidance, revise their work, and reflect on why a particular judgement succeeded or failed.

For teachers, this means that encouraging students to "keep going" is not enough. Arts learning benefits from sustained projects that allow learners to return to the same material or problem over time, but those projects also need moments of pause, critique, and reconsideration. Demonstration, studio discussion, process journals, side-by-side comparison, and reflective questioning can help students connect an initial feeling with visible features of the work. In this way, intuition can become more informed without losing the immediacy that makes it valuable in creative practice.

The study therefore contributes to a broader understanding of grit beyond academic persistence and achievement. It suggests that grit may also be related to how students build and access experience in fields where much knowledge is embodied, practical, and difficult to express fully in words. Future research could follow arts students over time, examine changes in intuitive judgement during studio practice, and compare self-reported intuition with teacher ratings or performance-based tasks. Such work would help clarify not only whether grit and intuition are connected, but also how sustained engagement, studio experience, reflection, and feedback become associated with increasingly informed artistic judgement over time.

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