Applied Research in Quality of Life (2025) 20:1469–1491
https://doi.org/10.1007/s11482-025-10468-4

Give me Support and Hope, and I Can Be Creative: Evidence for a Mediation Model from Five Countries

Chee-Seng Tan[1] · Jonathan E. Ramsay[2,3] · Sanju George[4] · Argel Bondoc Masanda[5] · Soon-Aun Tan[6] · Jing Zhang[1] · Siew-May Cheng[7] · Mark A. Runco[8,9] · Walton Wider[10,11,12]

Received: 14 January 2025 / Accepted: 13 May 2025 / Published online: 21 June 2025

Abstract

Social support has been found to facilitate creativity. However, the underlying mechanism remains unclear. Guided by the broadened-and-build theory, this correlational study addressed the question of how perceived social support (PSS) influences self-rated creativity through the mediating role of hope. Study 1 included a community sample of 1204 individuals aged 18 to 64 from Australia, India, Malaysia, the Philippines, and Singapore. Correlation analysis showed the three variables were positively correlated with each other across five countries. Moreover, mediation analysis indicated that PSS had an indirect relationship with creativity through hope when creative self-efficacy and age were controlled. Study 2 replicated these findings in a sample of 210 working adults in Malaysia. The consistency supports the robustness of the results across different age and cultural contexts. These findings confirm that social support and hope should be considered in creativity studies. Although further research would be useful, it appears that creativity could be improved with social support and hope. Altogether, policy, program development, and interventions aimed at fostering supportive communities may be able to enhance creativity by leveraging both social support and hope.

Keywords Community · Creativity · Cross-cultural research · Working adults · Hope · Perceived social support · Psychological well-being

Creativity is crucial in both personal and professional settings. Creativity allows people to sustain their well-being (Tan et al., 2021; Tan, Tan, et al., 2019); students to enhance their academic performance and problem-solving skills (Tan, Tan, et al., 2019; Yang & Zhao, 2021); and employees to develop and implement innovative ideas (Volery & Tarabashkina, 2021) which improve their overall productivity at workplace (Alzoubi & Alzoubi, 2023). Several factors have been identified to boost creative potential, including psychological factors such as positive emotions (Tan

Extended author information available on the last page of the article

& Qu, 2015), creative self-efficacy (Yao & Yu, 2023), ambidexterity (Wang et al., 2023), and intrinsic motivation (Amabile, 1990; Runco, 1993; Tan, Lau, et al., 2019). Some evidence suggests that social support is also critical (Tan et al., 2022).

Despite the scholarly importance of social support for promoting creativity, its underlying mechanism explaining how hope as one potential mediating factor can be linked to both social support and creativity (Xiang et al., 2020; Yu et al., 2019) remains unexplored. The mechanism has significant theoretical and practical applications. A limited understanding of the psychological mechanisms that drive creativity is likely to result in incomplete or inaccurate models of creative development. If educators, employers, and mental health professionals ignore the potential factor to enhance creativity, the creativity cultivation strategies in educational contexts, workplaces, and personal development programs are likely to be ineffective. As a result, individuals would fail to reach their full creative potential. This would hamper their innovation, problem-solving abilities, and overall well-being. Since the mediating role of hope is necessary for maximizing creative outcomes and personal and professional success, this study aims to examine the mechanisms through which social support fosters creativity via hope. Specifically, it seeks to answer two key questions: (a) whether and how social support is positively related to creativity and (b) whether this relationship holds across different cultural contexts and age groups (undergraduate students and working adults).

To demonstrate the plausibility of the proposed mediation model, the next section first examines the theoretical and empirical evidence supporting the well-established relationship between social support and creativity. The connection between hope and creativity is then explored, followed by a review of the link between social support and hope. Last, an overview of the two studies conducted as part of the present study is provided.

Social Support and Creativity

According to Cohen and Syme (1985), social support refers to emotional, instrumental, or informational aids and assistance provided by social connections. Emotional support involves the feelings of being respected, cherished, cared for, and loved, whereas instrumental support includes the tangible aids provided by others (Khodabakhsh & Tan, 2022). Informational support covers all sorts of useful feedback, and sometimes mandatory advice (Park, 2024). Social support has been further classified into *received social support* and *perceived social support*. Received social support focuses on the actual assistance one receives (Haber et al., 2007). Perceived social support, on the other hand, refers to an individual's perception of the availability and adequacy of social support from various sources in their social networks such as family and friends (Zimet et al., 1988). While both received and perceived social support are essential and beneficial, some studies have shown that perceived social support plays a more important role than received social support (McDowell & Serovich, 2007; Uchino, 2009). For example, greater received support had only a small relationship with lower depressive symptoms and was fully mediated by perceived support (Eagle et al., 2019).

Numerous studies consistently support the beneficial effect of perceived social support for handling adversity. For example, perceived social support was negatively associated with non-suicidal self-injury behavior among adolescents (Yuan et al., 2024). Individuals who reported higher levels of social support also reported lower levels of demoralization (Huang et al., 2024). On the other hand, perceived social support was positively associated with various psychological outcomes, such as happiness (Tan et al., 2017), hope (Tan et al., 2018), meaning in life (Fu et al., 2024), and post-traumatic growth (Joy et al., 2024).

Other studies found social support to be positively correlated with creativity. University students in groups that demonstrated supportive interactions were found to have better performance (i.e., fluency, flexibility, and originality scores rated by two independent coders) and higher self-rated creativity in idea generation and poster creation tasks, respectively (Bastian et al., 2018). In addition, the positive effect of perceived social support on creative performance was manifested in an experimental study involving 135 undergraduate students. After statistically controlling for the effect of creative self-efficacy, students who were primed for high perceived social support through a writing task outperformed their counterparts in the control group on a divergent thinking test which was scored for fluency, flexibility, and originality (Tan et al., 2022). In the work context, support from supervisors and coworkers was positively associated with cabin attendants' creative performance (Talebzadeh & Karatepe, 2020). Likewise, an analysis of the self-reported responses of 147 expatriate engineers working in Saudi Arabia during the COVID-19 pandemic found that financial and adjustment supports had a significant positive relationship with individual creativity (Amari, 2023).

The broaden-and-build theory of positive emotions describes the positive effect of perceived social support on creativity (Fredrickson, 2001) whereby positive emotions brought by perceived social support widen individuals' thought-action repertoire and strengthen cognitive flexibility and openness to new experiences. Positive feelings like joy, contentment, and love can enhance a broader series of thoughts and actions in emotionally supported individuals, leading to more novel and creative ideas.

Perceived social support may buffer stress and anxiety, both reported to inhibit creativity (Anasori et al., 2023; Lim et al., 2017; Tan, Tan, et al., 2019). With a sense of a reliable support system, stress would probably be lowered, which means that cognitive resources are less taxed, and the mind can be given more freely to creativity. Individuals in supportive environments get to incubate and implement creative ideas as they enjoy psychological safety when taking risks and exploring any new ideas without discrimination or failure.

In addition, social support applies to individuals engaging in constructive discussions with supportive mates or superiors. Besides exposure to diverse viewpoints and feedback, individuals get their creative ideas ignited and innovative concepts refined, which are all essential for creative problem-solving. Such perceived social support brings only positive effects to creativity when the combined emotional, cognitive and social mechanisms lead to conducive environments for creative thinking and expression.

With all of this in mind, and based on the broaden-and-build theory and literature, it was hypothesized that:

H1: Perceived social support is positively related to creativity.

The Mediating Role of Hope

That hypothesized relationship between social support and creativity might be mediated by various personal factors, such as hope (Lei & Lei, 2023; Rego et al., 2014; Zhang et al., 2019). Hope refers to a cognitive process characterized by a positive motivational state. It has two main components: agency thinking and pathways thinking (Snyder et al., 1991). Agency thinking is when an individual is determined and capable to achieve goals through the necessary motivational energy equipped for success. Pathway thinking is when an individual cognitively produces multiple routes or plans to target goals essential for creative problem-solving and innovation (Snyder et al., 1991).

Individuals pursuing creativity may unavoidably face tension, conflict, and even failure (Zhou & George, 2003) especially when both agency and pathway thinking necessitate sustained creative effort and novel idea generation. This allows individuals with higher levels of hope to manage challenges more successfully (Rego et al., 2014). In addition, according to the Broaden-and-Build Theory (Fredrickson, 2001), positive emotions such as hope, joy, and love can broaden individuals' cognitive and behavioral range, making them more flexible and open. The expansion in the individuals' thinking could improve their openness and creativity. Put differently, hope potentially stimulates creativity as it widens attention and thinking, initiates exploratory and experiential behaviors, builds social connections, and trains intellectual resources. Moreover, hopeful individuals tend to be independent, autonomous, and sympathetic. They are able to seek creative alternatives and revolutionary solutions to their tasks (Sweetman et al., 2011).

Empirical evidence has shown that employees who reported higher levels of hope perceived themselves as more creative (Yu et al., 2019) and more creative as rated by their supervisors (Rego et al., 2009). The positive correlation between hope and creativity has been found in economy-related studies as well. When low socioeconomic stratum (SES) consumers face constraints that engender creativity (Trujillo & Rosa, 2017), increasing hope can enhance creativity. Likewise, in a study exploring how socioeconomic status (SES) predicted individual creativity, hope was found to mediate the effect of SES on individuals' creative ideation (Y. Yang et al., 2020). A recent longitudinal study across two weeks with a community sample in Malaysia further shed light on the relationship between hope and creativity. Specifically, hope measured at baseline was found to positively predict self-rated creativity measured at Time 2, even after statistically controlling for the effect of well-being measured (Tan et al., 2025). In essence, the robustness of the benefit of hope for creativity suggests that enhancing hope is a promising way to boost individuals' creativity.

Other research suggests that perceived social support can modulate individuals' experience of hope (Chokami & Razavi, 2015), as it can facilitate problem-solving skills and strategies when dealing with challenging issues. Indeed, empirical

evidence supports a positive link between perceived social support and hope (Pasyar et al., 2020). For instance, in a longitudinal study of the relationship between perceived multiple sources of social support (i.e., parents, teachers, classmates, friends) and adolescent hope, sampling 991 middle and high school adolescents (aged 10 to 19), living in the United States, perceived social support from parents significantly predicted hope (Archer et al., 2019). Another study of rural adolescents also showed positive correlations between perceived social support and hope (Lu, 2023). Notably, a one-year longitudinal study among university freshmen in China illustrated the causal impact of perceived social support (measured by the Multidimensional Scale of Perceived Social Support; Zimet et al., 1988) on hope (measured by the Adult Hope Scale; Snyder et al., 1991). Cross-lagged panel model analysis showed that perceived social support measured at the baseline significantly and positively predicted hope measured at Time 2 six months after the baseline (Xiang et al., 2020). Similarly, perceived social support measured at Time 2 also predicted hope measured at Time 3 (six months after Time 2). All of this led us to the following hypotheses:

H2: Hope is positively related to creativity.

H3: Perceived social support is positively related to hope.

H4: Hope mediates the relationship between perceived social support and creativity.

Overview of the Present Study

Both theoretical framework and empirical evidence derived from different research designs consistently indicate that creativity is facilitated by perceived social support and hope, respectively, and that perceived social support is beneficial to hope. With this in mind, we conducted two studies using a cross-sectional design to examine the hypothetical mediating role of hope in the relationship between perceived social support and self-rated creativity. Study 1 examined the proposed mediation model across five countries to ensure an inclusive and comprehensive cross-cultural analysis. We focused on five countries, balancing theoretical relevance and practical feasibility. Our primary interest was Southeast Asia—a region often overlooked in this research area. Within Southeast Asia, we selected the Philippines, Malaysia, and Singapore because English is widely spoken, eliminating the need for survey translation. This helped minimize potential distortions caused by language differences in scale adaptation.

To assess whether our findings extended beyond an Asian context, we included Australia. While other Western countries could have served as comparisons, Australia offered logistical advantages—one of our team members had recruitment access at universities in both Singapore and Australia, enabling efficient and high-quality data collection. Any notable differences between Australia and Southeast Asian responses could have pointed to cultural or institutional influences worth exploring further.

Finally, we incorporated India, the world's most populous country, to strengthen the generalizability of our results. Given India's vast and diverse population, insights

from this context could have important implications for understanding how social support and hope influence creativity.

We first tested the hypothetical mediation model using the aggregated data, followed by separate analyses for each country-level dataset. The findings can inform culturally sensitive interventions tailored to the specific needs of populations, particularly if differences are observed at the country level. Moreover, creative self-efficacy was included as a covariate variable because of its medium-sized relationship with creativity in a meta-analysis (Haase et al., 2018). This can provide insight into the question of whether perceived social support and hope can continue to benefit creativity after statistically excluding the confounding effect of creative self-efficacy.

Replicating Study 1, Study 2 then sampled working adults to further clarify hope's role in linking social support to enhanced creativity. This study, which was done in a different context and age group, was expected to yield promising interventions for improving creativity in the workplace.

Study 1

Participants and Procedure

A total of 1219 undergraduate students (M_{age} = 21.85, SD = 5.48, 15 missing values) were recruited using convenience sampling from Australia (n = 163, 74.30% females, M_{age} = 23.44, SD = 7.89, 18 to 59 years old), India (n = 310, 75.40% females with one missing value, M_{age} = 20.58, SD = 1.50, 18 to 38 years old with three missing values), Malaysia (n = 295, 60.90% females with five missing values, M_{age} = 21.56, SD = 1.73, 19 to 32 years old), the Philippines (n = 239, 67.50% females with 11 missing values, M_{age} = 22.69, SD = 7.62, 18 to 64 years old), and Singapore (n = 212, 79.30% females, M_{age} = 21.52, SD = 4.10, 18 to 46 years old with one missing value). The final sample consisted of 867 females and 335 males while 17 individuals did not report their gender. Participants accessed the online survey hosted on Qualtrics through a link provided by the local collaborator. They completed the survey at their convenience and in a location of their choice, using their own devices. All participants provided informed consent and received extra course credit as compensation for their participation in the study.

Measurements

All participants answered the English version of the following measurements. The reliability of the measurements is reported in the Results section.

Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)

The MSPSS was used to measure respondents' perceived social support across three dimensions: family, friends and significant others. The scale consists of 12 items (four per dimension) on a seven-point Likert scale ranging from 1 (very strongly

disagree) to 7 (very strongly agree). Sample items are "*My family really tries to help me*", "*I can talk about my problems with my friends,*" and "*There is a special person who is around when I am in need*." A mean score was computed by averaging the item scores. A higher mean score indicates a higher level of perceived social support.

Adult Hope Scale (AHS; Snyder et al., 1991)

The 12-item AHS has been used to measure hope as a cognitive-motivational construct across different cultural contexts. However, according to the scoring instructions, four of these items are filler items and are not included in the scoring. Half of the remaining eight items make up the respective agency and pathway dimensions. Participants responded to each item on an 8-point Likert scale (1: Definitely false, 8: Definitely true). A composite score of hope was created by averaging the eight items with a higher score indicating a higher level of hope.

Self-Rated Creativity Scale (SRCS; Tan & Ong, 2019)

The SRCS consists of 12 self-rated items used to measure self-perceived creativity. Participants were required to respond on a five-point Likert scale, ranging from 1 (disagree strongly) to 5 (agree strongly). A sample item was "*I come up with creative solutions to problems*." A mean score was computed by averaging the item scores. A higher score indicates a higher level of creativity.

Creative Self-Efficacy Scale (CSES; Beghetto, 2006)

Participants rated their creative self-efficacy with three items using a 5-point Likert scale (1: strongly disagree to 5: strongly agree). A sample item was "*I have a good imagination.*". The higher the average score, the higher the level of creative self-efficacy.

Statistical Analysis

SPSS version 29 was used for data analysis. The dataset for each country was first examined for missing value and outliers. Outliers were detected by calculating the Mahalanobis distance (MD) value. A chi-square value was then computed for each MD. Any chi-square value statistically significant at.001 level was considered an outlier (Sullivan et al., 2021) and removed from the dataset.

Descriptive statistics, correlation coefficients, and reliability coefficients for the four variables in the combined dataset were then examined. This was followed by the examination of each country dataset. McDonald omega coefficient (ω) was used to estimate the reliability of the measures. Finally, the proposed mediation model was tested using the Process macro for SPSS version 4.2 (Hayes, 2022). Perceived social support, hope, and creativity were treated as the predictor variable, mediator, and outcome variable respectively, while creative self-efficacy was included as

a covariate variable. We also included age as another covariate variable to control the impact of age differences (if any) and to minimize common method biases (see below for further explanation). The mediating effect is supported when the percentile bootstrap confidence intervals (CI) with 10,000 samples do not include a zero value.

A major issue in studies using self-report is the influence of common method biases. Several methodological and statistical remedies were used in the present study, following Podsakoff et al.' (2003) suggestions. First, the use of different scale endpoints (refer to the Measurements section for details) in the measurements of the target variables leads participants to read the items carefully and avoid answering them following social desirability. Second, the anonymity of the responses was stressed in the consent form to reduce participants' fear of being evaluated. Third, considering that age may have no (or a weak) relationship with perceived social support, we included age as a marker variable in the analysis to statistically partial out the effects of method variance. Finally, Harmon's single-factor analysis was conducted by submitting all measurements items of perceived social support, hope, and creativity to an exploratory factory analysis. Common method biases are apparent if the unrotated solution shows a single factor structure or a factor explains a high percentage of the total variance.

Results and Discussion

Inspection of the datasets found a missing value in the CSE value of the Philippine sample and addressed it using the expectation maximization method. Moreover, outliers were detected in every country dataset. In total, 15 cases were eliminated (1 from Australia, 2 from India, 5 from Malaysia, 6 from the Philippines, and 1 from Singapore) resulting in 1204 responses with 857 women, 330 men, and 17 missing values (M_{age} = 21.77, SD = 4.97, 15 missing value). Table 1 shows the distribution of the samples by demographic variables after removing for outliers.

Table 2 shows the descriptive statistics, correlation coefficients, and reliability results for the overall dataset and each country's sample. The absolute skewness and kurtosis values for the combined dataset were greater than 3, suggesting normally distributed data (Kim, 2013). Pearson correlation analysis showed that the four variables were significantly and positively correlated with each other. The strongest correlation was observed in the relationship between self-reported creativity and CSE (r=.722), while the relationship between social support and CSE was the weakest (r=.351). The same pattern of results was documented in each country, with one exception in the Philippine sample, whereby the weakest correlation was observed in the relationship between social support and creativity. Because the social support score in the Malaysian dataset and the social support and hope scores in the Philippine dataset were not normally distributed, we re-examined the relationships among the variables using Spearman's rho correlation. The results are compatible with those reported in Table 2, and hence are not reported here for the sake of clarity.

In general, the four measurements showed good and in some ways excellent reliability in the overall samples. The ω coefficients ranged from.844 (CSES)

Table 1 Distribution of Demographic Variables for Each Country

	Australia (n = 162)	India (n = 308)	Malaysia (n = 290)	the Philippines (n = 233)	Singapore (n = 211)
Gender					
Male	38	76	108	71	37
Female	124	231	177	151	174
Missing	0	1	5	11	0
Age					
Mean	23.36	20.57	21.55	22.76	21.50
SD	7.84	1.50	1.72	7.70	4.10
Min	18	18	19	18	18
Max	59	38	32	64	46
Missing	0	3	4	7	1
Ethnicity					
Malay	3	0	52	0	18
Chinese	10	0	162	0	128
Indian	1	306	70	0	28
Others	148	1	2	232	37
Missing	0	1	4	1	0
Religion					
Islam	3	31	55	0	25
Buddhism	6	0	125	0	44
Hinduism	63	105	56	0	21
Christianity	89	169	37	183	59
Others	1	1	13	3	62
Missing	0	2	4	47	0

to.935 (SRCS). A similar pattern of results was observed in each country's sample: from.853 (the Philippines) to.962 (India) for the MSPSS; from.817 (Australia) to.956 (India) for the AHS; from.894 (the Philippines) to.973 (India) for the SRCS; and from.753 (Australia) to.948 (India) for the CSES.

Common Method Bias Testing Results

Harman's single-factor test was conducted on each country's data to examine the possibility of the occurrence of common method biases in the present study. A six-factor solution was revealed for the Australian, the Philippine, and the Singaporean samples. The first factor explained 28.89%, 28.88%, and 34.42% of the total variance in the three samples respectively. Likewise, the first of the seven factors explained 29.81% of the total variance in the Malaysian sample. For the Indian sample, the results showed a four-factor structure and 58.06% of variance explained by the first factor.

Table 2 Descriptive Statistics, Correlation, and Reliability Results for the Combined data and Country Sample

Variable	M	SD	Skewness[a]	Kurtosis[b]	1	2	3	4
Overall data (N= 1204)								
1. Social support	5.33	0.95	−0.668	0.339	(.911)			
2. Hope	5.89	1.01	−0.463	0.018	.598***	(.891)		
3. Creativity	3.71	0.65	−0.541	0.718	.410***	.640***	(.935)	
4. Creative self-efficacy	3.77	0.75	−0.500	0.241	.351***	.525***	.722***	(.844)
Australia (n = 162)								
1. Social support	5.25	1.04	−.460	−.280	(.879)			
2. Hope	5.92	0.92	−.516	.224	.558***	(.817)		
3. Creativity	3.73	0.60	−.388	.339	.292***	.574***	(.896)	
4. Creative self-efficacy	3.78	0.68	−.398	.378	.189*	.361***	.615***	(.753)
India (n = 308)								
1. Social support	5.10	0.99	−.706	.646	(.962)			
2. Hope	5.82	1.16643	−.637	.009	.708***	(.956)		
3. Creativity	3.82	0.80	−.987	.912	.594***	.716***	(.973)	
4. Creative self-efficacy	3.93	0.83	−.919	.849	.618***	.703***	.810***	(.948)
Malaysia (n = 290)								
1. Social support	5.30	0.87	−.597	.346	(.868)			
2. Hope	5.69	0.89	−.028	−.312	.497***	(.847)		
3. Creativity	3.58	0.58	−.311	.227	.337***	.620***	(.904)	
4. Creative self-efficacy	3.61	0.79	−.303	−.326	.241***	.470***	.712***	(.834)
the Philippines (n = 233)								
1. Social support	5.80	0.68	−.986	1.045	(.853)			
2. Hope	6.45	0.81	−.747	.364	.521***	(.847)		
3. Creativity	3.81	0.48	.156	.088	.373***	.544***	(.894)	
4. Creative self-efficacy	3.85	0.64	−.332	−.109	.378***	.425***	.547***	(.788)
Singapore (n = 211)								
1. Social support	5.22	1.03	−.301	−.328	(.913)			
2. Hope	5.64	0.96	−.163	.083	.506***	(.850)		
3. Creativity	3.56	0.67	−.277	.239	.342***	.633***	(.924)	
4. Creative self-efficacy	3.64	0.71	−.287	.634	.259***	.470***	.735***	(.781)

Note. McDonald's Omega coefficient was presented at the diagonal line

[a] standard error for the overall, Australian, Indian, Malaysian, the Philippine, and Singaporean samples was 0.071, 0.191, 0.139, 0.143, 0.159, and 0.167 respectively

[b] standard error for the overall, Australian, Indian, Malaysian, the Philippine, and Singaporean samples was 0.141, 0.379, 0.277, 0.285, 0.318, and 0.333 respectively

*p <.05, **p <.01, ***p <.001

Mediation Analysis Results

Mediation analysis of the overall dataset showed that the complete model was statistically significant, $F(3, 1185) = 476.23$, $p < .001$, and explained 54.66% of the

variance of creativity ($R = 0.7393$). Both social support and creative self-efficacy were found to have a positive relationship with creativity: (unstandardized coefficient) $B = 0.12$, $SE = 0.01$, $t = 8.33$, $p < .001$, 95% *CI* [0.09, 0.15] for social support; $B = 0.57$, $SE = 0.02$, $t = 31.67$, $p < .001$, 95% *CI* [0.54, 0.61] for creative self-efficacy. However, age was unrelated to creativity.

Similarly, the model regressing on hope was statistically significant: $F(3, 1185) = 348.21$, $p < .001$, $R^2 = 0.4685$. All three predictor variables were positively associated with hope: $B = 0.49$, $SE = 0.02$, $t = 20.68$, $p < .001$, 95% *CI* [0.45, 0.54]) for social support; $B = 0.48$, $SE = 0.03$, $t = 15.86$, $p < .001$, 95% *CI* [0.42, 0.53] for creative self-efficacy; and $B = 0.01$, $SE = 0.004$, $t = 3.06$, $p = .002$, 95% *CI* [0.004, 0.02]) for age.

Although the (direct effect) model regressing on creativity was significant, $F(4, 1184) = 466.18$, $p < .001$, $R^2 = 0.6116$, mixed results were found for the predictor variables. On one hand, a positive relationship was observed between hope and creative self-efficacy with creativity: $B = 0.23$, $SE = 0.02$, $t = 14.08$, $p < .001$, 95% *CI* [0.20, 0.26] for hope; $B = 0.46$, $SE = 0.02$, $t = 25.17$, $p < .001$, 95% *CI* [0.43, 0.50] for CSE. On the other hand, social support and age were unrelated to creativity. Finally, after controlling for the effects of creative self-efficacy and age, the mediating effect of hope in the relationship between social support and creativity was significant: $B = 0.11$, $SE = 0.01$, 95% *CI* [0.09, 0.13]. The standardized indirect effect was $\beta = 0.16$, $SE = 0.01$, 95% *CI* [0.13, 0.19]. Analysis results for the overall dataset support the proposed mediation model.

Next, we examined the model using each of the country's datasets. Table 3 summarizes the mediation analysis results for each country. Overall, the results for each country replicate the results for the overall dataset. In particular, an analysis of each country's data consistently showed that (a) both social support and creative self-efficacy were positively related to hope, (b) both hope and creative self-efficacy were positively related to creativity, (c) the direct effect of social support on creativity was not significant when hope and creative self-efficacy were included, and (d) the mediating effect of hope was found significant in all samples. In addition, to clarify whether the non-normal distribution data may confound the results, we reran the analysis using the log transformed social support score for the Malaysian sample as well as the social support and hope scores for the Philippine sample. The results were identical to those presented in Table 3 and thus are not presented here.

Taken together, it can be concluded that the results are consistent across the five countries' samples. Specifically, supporting our hypotheses, the three target variables (i.e., perceived social support, hope, and creativity) were positively associated with each other and perceived social support had an indirect effect on creativity through hope. The congruency implies that the model works across different cultures. Put differently, the benefit of perceived social support on hope and creativity is likely to be independent of cross-cultural differences.

Despite promising results, there are two issues that deserve attention. First, while it is reasonable to believe that common method biases are not present in most of the samples, the Indian sample was susceptible to the bias. However, as the Indian sample results are congruent with the other samples, it is believed that the impact of common method biases on Indian sample is minor. Second,

Table 3 Mediation Analysis Results for Each Country

Predictor	B	SE	t	p	LLCI	ULCI
Australia ($n = 162$)						
Outcome: Creativity, $F(3, 158) = 38.95$, $p < .001$, $R^2 = 0.4251$ (total effect model)						
Social support	0.10	0.04	2.87	0.005	0.03	0.17
Creative self-efficacy	0.51	0.05	9.39	<.001	0.40	0.61
Age	0.01	0.005	2.03	0.04	0.0002	0.02
Outcome: Hope, $F(3, 158) = 41.47$, $p < .001$, $R^2 = 0.4406$						
Social support	0.44	0.05	8.19	<.001	0.33	0.54
Creative self-efficacy	0.35	0.08	4.27	<.001	0.19	0.51
Age	0.03	0.01	4.16	<.001	0.02	0.04
Outcome: Creativity, $F(4, 157) = 42.79$, $p < .001$, $R^2 = 0.5216$ (indirect effect model)						
Social support	−0.02	0.04	−0.44	0.66	−0.09	0.06
Hope	0.27	0.05	5.63	<.001	0.18	0.37
Creative self-efficacy	0.41	0.05	7.91	<.001	0.31	0.52
Age	0.002	0.004	0.33	0.74	−0.01	0.01
India ($n = 308$)						
Outcome: Creativity, $F(3, 301) = 195.93$, $p < .001$, $R^2 = 0.6613$ (total effect model)						
Predictor	B	SE	t	p	LLCI	ULCI
Social support	0.12	0.03	3.44	<.001	0.05	0.19
Creative self-efficacy	0.70	0.04	16.94	<.001	0.62	0.78
Age	−0.02	0.02	−1.22	0.22	−0.06	0.01
Outcome: Hope, $F(3, 301) = 152.32$, $p < .001$, $R^2 = 0.6029$						
Social support	0.51	0.05	9.54	<.001	0.41	0.62
Creative self-efficacy	0.60	0.06	9.37	<.001	0.47	0.73
Age	−0.03	0.03	−1.04	0.30	−0.08	0.03
Outcome: Creativity, $F(4, 300) = 166.19$, $p < .001$, $R^2 = 0.6890$ (indirect effect model)						
Social support	0.02	0.04	0.65	0.52	−0.05	0.10
Hope	0.18	0.04	5.17	<.001	0.11	0.25
Creative self-efficacy	0.59	0.04	13.08	<.001	0.50	0.68
Age	−0.02	0.02	−0.96	0.33	−0.05	0.02
Malaysia ($n = 290$)						
Outcome: Creativity, $F(3, 282) = 112.08$, $p < .001$, $R^2 = 0.5439$ (total effect model)						
Predictor	B	SE	t	p	LLCI	ULCI
Social support	0.12	0.03	4.17	<.001	0.06	0.17
Creative self-efficacy	0.49	0.03	16.17	<.001	0.43	0.55
Age	0.01	0.01	0.75	0.45	−0.02	0.04
Outcome: Hope, $F(3, 282) = 58.91$, $p < .001$, $R^2 = 0.3853$						
Social support	0.41	0.05	8.29	<.001	0.31	0.51
Creative self-efficacy	0.43	0.05	7.83	<.001	0.32	0.53
Age	0.02	0.02	0.83	0.41	−0.03	0.07
Outcome: Creativity, $F(4, 281) = 112.36$, $p < .001$, $R^2 = 0.6153$ (indirect effect model)						
Social support	0.02	0.03	0.87	0.39	−0.03	0.08
Hope	0.22	0.03	7.22	<.001	0.16	0.28
Creative self-efficacy	0.40	0.03	12.88	<.001	0.34	0.46

Table 3 (continued)

Age	0.01	0.01	0.46	0.65	−0.02	0.03
the Philippines ($n = 233$)						
Outcome: Creativity, $F(3, 222) = 36.99$, $p < .001$, $R^2 = 0.3333$ (total effect model)						
Predictor	B	SE	t	p	LLCI	ULCI
Social support	0.13	0.04	2.97	0.003	0.04	0.21
Creative self-efficacy	0.37	0.04	8.14	<.001	0.28	0.45
Age	−0.002	0.003	−0.68	0.50	−0.01	0.004
Outcome: Hope, $F(3, 222) = 38.04$, $p < .001$, $R^2 = 0.3395$						
Social support	0.52	0.07	7.35	<.001	0.38	0.66
Creative self-efficacy	0.32	0.07	4.26	<.001	0.17	0.46
Age	−0.01	0.01	−0.92	0.36	−0.02	0.01
Outcome: Creativity, $F(4, 221) = 40.28$, $p < .001$, $R^2 = 0.4217$ (indirect effect model)						
Social support	0.01	0.04	0.29	0.76	−0.08	0.10
Hope	0.22	0.04	5.81	<.001	0.15	0.29
Creative self-efficacy	0.30	0.04	6.79	<.001	0.21	0.38
Age	−0.001	0.003	−0.37	0.71	−0.01	0.01
Singapore ($n = 211$)						
Outcome: Creativity, $F(3, 206) = 93.40$, $p < .001$, $R^2 = 0.5763$ (total effect model)						
Predictor	B	SE	t	p	LLCI	ULCI
Social support	0.12	0.03	3.75	<.001	0.05	0.18
Creative self-efficacy	0.64	0.04	14.41	<.001	0.56	0.73
Age	0.02	0.01	2.53	0.01	0.004	0.03
Outcome: Hope, $F(3, 206) = 42.21$, $p < .001$, $R^2 = 0.3807$						
Social support	0.39	0.05	7.33	<.001	0.28	0.49
Creative self-efficacy	0.48	0.08	6.20	<.001	0.33	0.63
Age	0.02	0.01	1.46	0.15	−0.01	0.04
Outcome: Creativity, $F(4, 205) = 96.30$, $p < .001$, $R^2 = 0.6527$ (indirect effect model)						
Social support	0.02	0.03	0.63	0.53	−0.04	0.08
Hope	0.25	0.04	6.71	<.001	0.17	0.32
Creative self-efficacy	0.53	0.04	11.91	<.001	0.44	0.61
Age	0.01	0.01	2.09	0.04	0.001	0.03

Note. B = Unstandardized regression coefficient. *LLCI* Lower limit confidence interval, *ULCI* Upper limit confidence interval

the samples comprised people from different age groups. Although the inclusiveness gives us confidence that the findings may apply to different age groups, it does not provide a clear picture whether the beneficial effect of perceived social support and the mediating effect of hope are also sustainable in a work context. This question was deliberately tackled in Study 2 to ensure replicable findings among working adults.

Study 2

Based on the cross-cultural evidence found in Study 1, we further examined the hypothesized mediation model in the work context. The results would be helpful to reveal whether perceived social support and hope are also beneficial to working adults' creativity. Testing and confirming the generalizability of the findings are indeed essential for management's integration of perceived social support and hope in training employees' creativity.

Participants and Procedure

A total of 296 individuals participated in the survey through convenience and snowball sampling methods. The inclusion criterion was working individuals, and the exclusion criterion was below 18 years old. Conclusively, we removed six retirees, 11 housewives, 67 students, and one case with missing value in occupation. The details of their demographic information are reported in the Results section.

Among the 211 participants, 71.4% of them answered the survey in hardcopy and 28.6% answered the survey online. All were informed about the objective of the present study, the risks and benefits of participation, as well as participant rights, privacy, and confidentiality in their answers. All participants provided their informed consent for voluntary participation before answering the survey.

Measures and Statistical Analysis

Similar to Study 1, the MSPSS, AHS, SRCS, and CSES were employed to measure the four target variables. The same analysis strategy was used to test the hypotheses.

Results and Discussion

There was no missing value in the dataset. However, one outlier was detected based on the Mahalanobis distance value. Removing the case resulted in a sample of 210 comprising 115 men and 95 women ($M_{age} = 38.59$, SD = 8.47, ranging from 30 to 70 years old) from business, academic, service, and professional industries. The majority of the participants identified themselves as Chinese (42.4%), followed by Indians (28.6%), Malays (27.6%), and others (1.4%). There were 35.24% Buddhists, 27.62% Muslims, 27.14% Hindus, 9.05% Christians, and 0.95% others. In terms of educational level, 10 completed junior high school, 48 graduated senior high school, 37 had diploma or A-level, 78 were bachelor's degree holders, 19 had Master's degree, and 18 had others. There were 60 % of married participants, 38.1% singles, 1.4% divorcees, and one missing value of the participants.

Table 4 shows the descriptive statistics, correlation coefficients, and McDonald's omega coefficients. All variables were assumed to fall within a normal distribution because the absolute z-score for skewness (i.e., dividing the original skewness value by its standard error) and kurtosis were lower than 3.29 respectively. On the other hand, Pearson correlation analysis showed that the four

Table 4 Descriptive Statistics, Correlation, and Reliability Results for Working Adults

Variable	M	SD	Skewness[a]	Kurtosis[b]	1	2	3	4
1. Social support	5.30	0.98	−.311	−.425	(.916)			
2. Hope	5.67	1.03	−.081	−.330	.545***	(.882)		
3. Creativity	3.58	0.61	.185	.137	.423***	.654***	(.910)	
4. Creative self-efficacy	3.57	0.81	−.444	.843	.355***	.560***	.748***	(.835)

Note. $N = 210$. McDonald's Omega coefficient was presented at the diagonal line

[a] standard error was 0.168

[b] standard error was 0.334

*$p < .05$, **$p < .01$, ***$p < .001$

variables were positively correlated with one another, ranging from.355 to.748. The strongest correlation was observed in the relationship between creativity and creative self-efficacy, while the relationship between perceived social support and creative self-efficacy was the lowest. The internal consistency of measurements was good to excellent. The omega values ranged from.835 to.916.

Mediation analysis showed that the total effect model was significant: $F(3, 206) = 99.31$, $p < .001$, and explained 59.12% of the total variance ($R = 0.7689$). Perceived social support was found to have a positive relationship with creativity: $B = 0.11$, $SE = 0.03$, $t = 3.70$, $p < .001$, 95% *CI* [0.05, 0.17]. Likewise, there was a positive relationship between creative self-efficacy and creativity ($B = 0.51$, $SE = 0.04$, $t = 14.39$, $p < .001$, 95% *CI* [0.44, 0.58]). However, age did not have a relationship with creativity.

Next, the model regressing on hope was significant: $F(3, 206) = 61.42$, $p < .001$, $R^2 = 0.4721$. All three predictor variables were positively related to hope: $B = 0.40$, $SE = 0.06$, $t = 7.09$, $p < .001$, 95% *CI* [0.29, 0.52] for social support; $B = 0.54$, $SE = 0.07$, $t = 7.84$, $p < .001$, 95% *CI* [0.40, 0.68] for creative self-efficacy; and $B = 0.02$, $SE = 0.01$, $t = 2.93$, $p = .004$, 95% *CI* [0.01, 0.03] for age.

The indirect effect model regressing on creativity was also significant: $F(4, 205) = 92.19$, $p < .001$, $R^2 = 0.6427$. Results showed both hope ($B = 0.18$, $SE = 0.03$, $t = 5.44$, $p < .001$, 95% *CI* [0.12, 0.25]) and creative self-efficacy ($B = 0.41$, $SE = 0.04$, $t = 10.87$, $p < .001$, 95% *CI* [0.34, 0.49]) positively related to creativity. On the other hand, social support and age did not have a relationship with creativity. Finally, the indirect effect of social support on creativity via hope was significant: $B = 0.07$, $SE = 0.02$, 95% *CI* [0.04, 0.12] ($\beta = 0.12$, $SE = 0.03$, 95% *CI* [0.07, 0.19]).

An additional analysis was conducted to understand whether gender plays a role in the mediation model. Specifically, we reran the analysis by adding gender as another covariate variable. The results are identical to the main analysis reported above. Moreover, gender did not have a relationship with creativity and hope, respectively. Therefore, output is not presented here for the sake of clarity. Finally, Harmon's single-factor analysis revealed a 5-factor structure, and the first factor explained 35.29% of the total variance. The results suggested that common method biases were not substantial in Study 2.

In line with the results from Study 1, Study 2 supported the hypotheses and the proposed mediation model in a sample of working adults. The replication provides additional empirical evidence supporting the model and suggests that it is effective across different age groups.

General Discussion

The present study attempts to answer the question of whether and how perceived social support positively engenders creativity. Guided by the broaden-and-build theory and literature, we hypothesized that perceived social support, hope, and creativity are positively related to each other and that hope plays a mediating role in the link between perceived social support and creativity. In general, Study 1, conducted with participants aged 19 to 64 years old from Australia, India, Malaysia, the Philippines, and Singapore, revealed individuals reported higher creativity when they perceived higher social support, with this positive association being mediated by feelings of hope. These results were then replicated in Study 2, which involved working adult participants in Malaysia. The consistency of our findings was therefore verified across different contexts.

Supporting our first hypothesis, a positive relationship was found between perceived social support and creativity. Individuals tend to embrace creative thinking when they feel socially supported. The results are consistent with the literature (Amari, 2023; Tan et al., 2022). When surrounding friends, family, coworkers, or community members offer words or acts of encouragement, constructive feedback, and comments, it helps to build faith and confidence in individuals. These positive feelings, according to the broaden-and-build theory (Fredrickson, 2001), can ignite creative insights and innovation in individuals since they are exposed to various perspectives and ideas. With supportive networks around, they are ever ready to take risks with new ideas. The sense of security may also mitigate stress and anxiety (e.g., Anasori et al., 2023; Lim et al., 2017), thus providing a conducive mental environment for creative processes.

Perceived hope was positively related to creativity. The result not only supports our second hypothesis but is also in line with the literature (e.g., Yu et al., 2019). Hope that comes with a sense of purpose and direction drives individuals to their ambitions and creative endeavors. Functioning as a psychological buffer, hope enables individuals to stay focused and resilient against setbacks and obstacles. Hope also offers them vital proactive approaches to handling all sorts of uncertainty and failure in periods of trial and error. Equipped with the ability to foresee opportunities beyond constraints and limitations, creativity could be present in these individuals seeking novel solutions in unfamiliar territories.

The third hypothesis was also supported. Consistent with the literature (Lu, 2023; Xiang et al., 2020), our results showed a positive relationship between perceived social support and hope. Individuals with social support will have more positive expectations towards the future as social support motivates them to believe in feasible goal accomplishment. They are also more likely to recognize their capability to generate routes or pathways to success with the perceived support. The high

motivation and the availability of execution plans would boost their overall sense of hope.

Finally, the results lend support to our hypothesis of the mediating role of hope in the relationship between social support and creativity. This finding suggests that perceived social support fosters hope, which in turn enhances creativity. Put differently, when supportive network retains hope and perseverance in individuals, creativity is enhanced in them.

For that reason, it is necessary to acknowledge the role of hope as a psychological mechanism for perceived social support to influence creativity. Future interventions to increase social support shall take into account the role of hope for maximal creativity. Cultivation of both social support and hope can help provide a conducive environment for individuals' emotional and psychological growth as well as sustainable creative potential. Such effort can also foster creativity more effectively and holistically in diverse settings like education, professional workplaces, or community programs.

The above-discussed results are consistently documented across different national samples and extended to the working population. The strong dynamics among social support, hope, and creativity reflect the importance of human relationships and positive attitudes in achieving creativity. Meanwhile, consistency across diverse contexts suggests the broad applicability of the principles in various cultural and organizational settings. Future researchers should recognize psychological factors like hope in cross-cultural examinations on social support and creativity.

This study provides significant theoretical insights into creativity research, particularly through its integration of cross-cultural evidence. It highlights how social factors, such as perceived social support, influence individual creativity via the mediating role of hope. By identifying hope as a key mechanism in this relationship, the study addresses a critical gap in the creativity literature, which often neglects the interplay between social and psychological resources. Furthermore, the analysis draws on data from five culturally diverse countries—Australia, India, Malaysia, the Philippines, and Singapore—demonstrating that the findings are consistent across these varied contexts, thus reinforcing their validity and broad relevance.

The results expand the theoretical framework of social support by showing its impact not only on health and well-being but also on cognitive and creative abilities. The cross-cultural consistency of these relationships underscores the universal applicability of the broaden-and-build theory. Specifically, the findings illustrate how positive social interactions enhance psychological resources like hope, which subsequently fuel creativity. This perspective underscores the shared human processes underlying these dynamics, transcending cultural boundaries.

By incorporating cross-cultural evidence, this research offers a more holistic understanding of how social and psychological factors interact to drive creativity. It lays a theoretical foundation applicable across diverse cultural contexts, providing valuable insights for future research. Moreover, it emphasizes that interventions aimed at strengthening social support and fostering hope can enhance creativity on a global scale, making the findings relevant for researchers and practitioners focused on improving well-being and human development.

Creativity is a critical component of quality of life, serving as a foundation for personal fulfillment, self-expression, and the development of innovation, adaptability, and problem-solving skills that propel societal progress. This study underscores the importance of social support and hope in fostering creativity, offering actionable insights for improving quality of life across diverse settings. By elucidating how perceived social support promotes creativity through the mediating role of hope, the findings provide practical guidance for designing interventions and performance measures that advance well-being, satisfaction, and personal growth.

For example, educators could implement programs combining socio-emotional learning (SEL) frameworks with strategies to build hope, such as teaching students to seek support effectively and set achievable goals to maintain hope. These efforts would strengthen students' socio-emotional skills, nurture their creativity, and contribute to their long-term well-being and holistic development. Similarly, organizations can enhance workplace satisfaction and productivity by fostering supportive environments. Initiatives such as mentoring programs, team-building activities, and supportive leadership practices can cultivate social connections and instill hope among employees, driving innovation and organizational growth. Policymakers and community leaders can also use these insights to design community programs that strengthen social networks and nurture hope, thereby enhancing the creativity and well-being of individuals within their communities.

The present study is not without limitations. The cross-sectional design limits our ability to verify the causal relationships between the variables. Note that, however, some studies have found support to the causality. For instance, Tan et al. (2022) have shown that perceived social support enhances creativity in their experiment. Similarly, there are longitudinal evidence demonstrating that perceived social support boosts hope (Xiang et al., 2020) and hope increases creativity (Tan et al., 2025). These findings lead us to believe that the directional relationships in the mediation model are plausible.

Another limitation of the present study was the self-reporting in assessing creativity. Self-rated creativity has been criticized as self-evaluation may not guarantee actual creative performance. While recognizing the potential gap between these two types of creativity assessment, we argue that self-report methods play a valuable role in evaluating creativity. To illustrate, in an experiment on the impact of sharing an adverse (vs. non-adverse) experience on supportive team social interactions and team creative performance, it was found that participants' self-perceived creativity in a task of generating multiple uses for a brick and designing a poster was positively associated with the rating by independent raters respectively (Bastian et al., 2018). Put differently, team members who believed the products they generated were creative received higher creativity ratings from the evaluators. The results indicate that individuals possess a certain level of self-insight into their creative capabilities and a reasonably accurate self-assessment of their creative abilities. With this in mind, self-rated creativity can be considered an indicator of actual creative performance, though it is not ideal. To address the limitations mentioned above, future research should replicate the present study by employing a longitudinal design with three waves and an assessment of actual creative performance (e.g., expert evaluation).

It is essential to recognize the limitation of including only one mediator in the model. The narrow scope of investigation has refrained us from generating a full picture of the framework of perceived social support and creativity. Therefore, the model requires further expansion because literature has suggested other potential mediators. For instance, social support has been found to have a negative relationship with fear of failure (Cengïz, S., 2023) and the latter is negatively related to creativity (Tan, Ong, et al., 2024). Similarly, the relationship between hope and creativity could be indirect and mediated by a variable such as happiness, which has shown a positive relationship with social support (Tan et al., 2018) and creativity (Tan, Tan, et al., 2019).

Finally, it is important to note that an imbalance in gender proportion among the participants represents a limitation of the present study. Gender differences in attitudes, perceptions, or behaviors relevant to the study's focus could have introduced bias, potentially skewing the findings to reflect the characteristics of the overrepresented gender more strongly. To address this limitation, future studies should replicate the present research while ensuring a more equitable representation of genders in the sample. By achieving a comparable number of responses from both male and female participants, or including other gender identities, future research can enhance the validity and generalizability of the findings.

Conclusion

This study highlights hope as a key psychological mechanism through which social support is associated with creativity, with evidence from five countries and a working adult sample. The consistent findings suggest that fostering social support and hope may contribute to higher levels of self-rated creativity. While further research is needed to verify the causality of these relationships, these findings provide valuable insights for designing interventions and programs that leverage social support and hope to foster creativity across diverse cultural and professional contexts.

Institutional Review Board Statement All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national). Ethics approval was granted by the Universiti Tunku Abdul Rahman Scientific and Ethical Review Committee (Ref: U/SERC/12/2023).

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process During the preparation of this manuscript the authors used ChatGPT 4o to improve the spelling, grammar, clarity, conciseness, and overall readability of the text. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Code Availability Not applicable.

Author Contribution Conceptualization, Chee-Seng Tan; Data curation, Chee-Seng Tan, Jonathan E. Ramsay, Sanju George, Argel Bondoc Masanda, and Soon-Aun Tan; Formal analysis, Chee-Seng Tan; Methodology, Chee-Seng Tan; Project administration, Chee-Seng Tan; Writing – original draft, Chee-Seng Tan, Jing Zhang, Siew-May Cheng, Mark A. Runco, and Walton Wider; Writing – review & editing, all authors. All authors have read and agreed to the published version of the manuscript.

Funding No funding was received for the conduct of this study. However, the publication fee was supported by the Wenzhou-Kean University Internal Start-up Research Grant (Project No: ISRG2023016) awarded to the first author.

Data Availability The present study's data are available upon request to the corresponding author.

Declarations

Informed Consent Statement E-informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors have no conflicts of interest to declare relevant to this article's content.

References

Alzoubi, A., & Alzoubi, F. (2023). Promoting employees creativity to mitigate job stress: Achieving job performance. *International Journal of Theory of Organization and Practice, 3*(1), 111–126. https://doi.org/10.54489/ijtop.v3i1.247

Amabile, T. M. (1990). Within you, without you: The social psychology of creativity, and beyond. In M. A. Runco & R. S. Albert (Eds.), *Theories of creativity* (pp. 61–91). Sage Publications.

Amari, A. (2023). Which kind of perceived organisational support fosters self-initiated expatriate engineers' creativity in high-adversity contexts? The moderating role of cross-cultural resilience. *Cogent Business & Management, 10*(3), 2259150. https://doi.org/10.1080/23311975.2023.2259150

Anasori, E., De Vita, G., & Gürkan Küçükergin, K. (2023). Workplace bullying, psychological distress, job performance and employee creativity: The moderating effect of psychological resilience. *The Service Industries Journal, 43*(5–6), 336–357. https://doi.org/10.1080/02642069.2022.2147514

Archer, C. M., Jiang, X., Thurston, I. B., & Floyd, R. G. (2019). The differential effects of perceived social support on adolescent hope: Testing the moderating effects of age and gender. *Child Indicators Research, 12*(6), 2079–2094. https://doi.org/10.1007/s12187-019-9628-x

Bastian, B., Jetten, J., Thai, H. A., & Steffens, N. K. (2018). Shared adversity increases team creativity through fostering supportive interaction. *Frontiers in Psychology, 9*, 2309. https://doi.org/10.3389/fpsyg.2018.02309

Beghetto, R. (2006). Creative self-efficacy: Correlates in middle and secondary students. *Creativity Research Journal, 18*(4), 447–457. https://doi.org/10.1207/s15326934crj1804_4

Cengïz, S. (2023). The effect of academic perfectionism and social support from friends on university students' fear of failure. *Journal of Family Counseling and Education, 8*(2), 73–84. https://doi.org/10.32568/jfce.1344676

Chokami, A. A., & Razavi, V. (2015). Relationship between social support and hope and death anxiety among the old people of Tehran Omid cultural center. *International Journal of Life Sciences, 9*(2), 65–70. https://doi.org/10.3126/ijls.v9i2.12052

Cohen, S., & Syme, S. L. (Eds.). (1985). *Social support and health*. Academic Press.

Eagle, D. E., Hybels, C. F., & Proeschold-Bell, R. J. (2019). Perceived social support, received social support, and depression among clergy. *Journal of Social and Personal Relationships, 36*(7), 2055–2073. https://doi.org/10.1177/0265407518776134

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. https://doi.org/10.1037/0003-066X.56.3.218

Fu, Y., Li, S., Huang, L., Liu, D., Wang, H., Zuo, F., Zhou, C., Liu, Y., & Lin, M. (2024). The mediating effect of perceived social support between family resilience and meaning in life in breast cancer patients. *Supportive Care in Cancer, 32*(7), 425. https://doi.org/10.1007/s00520-024-08605-0

Haase, J., Hoff, E. V., Hanel, P. H. P., & Innes-Ker, Å. (2018). A meta-analysis of the relation between creative self-efficacy and different creativity measurements. *Creativity Research Journal, 30*(1), 1–16. https://doi.org/10.1080/10400419.2018.1411436

Haber, M. G., Cohen, J. L., Lucas, T., & Baltes, B. B. (2007). The relationship between self-reported received and perceived social support: A meta-analytic review. *American Journal of Community Psychology, 39*(1–2), 133–144. https://doi.org/10.1007/s10464-007-9100-9

Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (third edition)*. The Guilford Press.

Huang, C.-Y., Tan, C.-S., Hung, Y.-C., & Cheng, S.-M. (2024). Demoralization during adolescence: The role of perfectionism and social support. *Studia Psychologica, 66*(3), 207–222. https://doi.org/10.31577/sp.2024.03.901

Joy, L. K., Kunjumon, L. E., Anil, A., Jaisankar, M., Fariha, A., Naufal, N. Z., Santhosh, S. P., Kallazhi, A., & Tan, C.-S. (2024). The roles of social support, family support, coping strategies, and financial safety in posttraumatic growth among COVID-19 survivors in Kerala. *Current Psychology, 43*(19), 17766–17770. https://doi.org/10.1007/s12144-023-05175-y

Khodabakhsh, S., & Tan, C.-S. (2022). Psychometric evaluation of the brief 2-way social support scale among Malaysian older adults. *Trends in Psychology, 30*(1), 97–110. https://doi.org/10.1007/s43076-021-00097-9

Kim, H.-Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*(1), 52. https://doi.org/10.5395/rde.2013.38.1.52

Lei, F., & Lei, L. (2023). The impact of resilience, hope, second language proficiency, and number of foreign languages on Chinese college students' creativity. *Thinking Skills and Creativity, 48*, 101275. https://doi.org/10.1016/j.tsc.2023.101275

Lim, J.-W., Phang, J.-Y., Low, M.-Y., & Tan, C.-S. (2017). Procrastination is detrimental to undergraduate students' self-rated creativity: The mediating role of state anxiety. *Creativity. Theories – Research - Applications, 4*(1), 99–115. https://doi.org/10.1515/ctra-2017-0005

Lu, C. (2023). The relationship between parental emotional warmth and rural adolescents' hope: The sequential mediating role of perceived social support and prosocial behavior. *The Journal of Genetic Psychology, 184*(4), 260–273. https://doi.org/10.1080/00221325.2022.2161343

McDowell, T. L., & Serovich, J. M. (2007). The effect of perceived and actual social support on the mental health of HIV-positive persons. *AIDS Care, 19*(10), 1223–1229. https://doi.org/10.1080/09540120701402830

Park, S. (2024). Impact of social support on life satisfaction in older adults: Considering socioeconomic status as moderator. *Asian Journal of Social Psychology, 27*, 90–100. https://doi.org/10.1111/ajsp.12583

Pasyar, N., Rambod, M., & Behrouzi, Z. (2020). The predictor role of perceived social support and spiritual intelligence in Hope among thalassemia patients. *Malaysian Journal Of Medical Sciences, 27*(3), 75–83. https://doi.org/10.21315/mjms2020.27.3.8

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Rego, A., Machado, F., Leal, S., & Cunha, M. P. E. (2009). Are hopeful employees more creative? An empirical study. *Creativity Research Journal, 21*(2–3), 223–231. https://doi.org/10.1080/10400410902858733

Rego, A., Sousa, F., Marques, C., Pina, E., & Cunha, M. (2014). Hope and positive affect mediating the authentic leadership and creativity relationship. *Journal of Business Research, 67*(2), 200–210. https://doi.org/10.1016/j.jbusres.2012.10.003

Runco, M. A. (1993). Creative morality: Intentional and unconventional. *Creativity Research Journal, 6*(1–2), 17–28. https://doi.org/10.1080/10400419309534463

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*(4), 570–585. https://doi.org/10.1037/0022-3514.60.4.570

Sullivan, J. H., Warkentin, M., & Wallace, L. (2021). So many ways for assessing outliers: What really works and does it matter? *Journal of Business Research, 132*, 530–543. https://doi.org/10.1016/j.jbusres.2021.03.066

Sweetman, D., Luthans, F., Avey, J. B., & Luthans, B. C. (2011). Relationship between positive psychological capital and creative performance. *Canadian Journal of Administrative Sciences / Revue Canadienne Des Sciences de l'Administration, 28*(1), 4–13. https://doi.org/10.1002/cjas.175

Talebzadeh, N., & Karatepe, O. M. (2020). Work social support, work engagement and their impacts on multiple performance outcomes. *International Journal of Productivity and Performance Management, 69*(6), 1227–1245. https://doi.org/10.1108/IJPPM-05-2018-0195

Tan, C.-S., Cheng, S.-M., Tan, S.-A., Chew, E.-J., & Tan, X.-H. (2025). Hope enhances creativity more than well-being: Findings from a two-week longitudinal study. *Current Psychology, 44*, 931–934. https://doi.org/10.1007/s12144-024-07124-9

Tan, C.-S., Chin, X.-Y., Chng, S. T.-C., Lee, J., & Ooi, C.-S. (2022). Perceived social support increases creativity: Experimental evidence. *International Journal of Environmental Research and Public Health, 19*(18), 11841. https://doi.org/10.3390/ijerph191811841

Tan, C.-S., Krishnan, S. A., & Lee, Q.-W. (2017). The role of self-esteem and social support in the relationship between extraversion and happiness: A serial mediation model. *Current Psychology, 36*(3), 556–564. https://doi.org/10.1007/s12144-016-9444-0

Tan, C.-S., Lau, X., Kung, Y., & Kailsan, R. A. (2019). Openness to experience enhances creativity: The mediating role of intrinsic motivation and the creative process engagement. *The Journal of Creative Behavior, 53*(1), 109–119. https://doi.org/10.1002/jocb.170

Tan, C.-S., Low, S., & Viapude, G. N. (2018). Extraversion and happiness: The mediating role of social support and hope. *PsyCh Journal, 7*(3), 133–143. https://doi.org/10.1002/pchj.220

Tan, C.-S., & Ong, A. W. (2019). Psychometric qualities and measurement invariance of the modified self-rated creativity scale. *The Journal of Creative Behavior, 53*(4), 593–599. https://doi.org/10.1002/jocb.222

Tan, C.-S., Ong, A. W.-H., Tan, S.-A., Gan, S.-W., Chong, S.-L., Low, S.-K., & Nainee, S. (2024). Psychometric qualities of the performance failure appraisal inventory–short form for Malaysian undergraduate students. *Trends in Psychology, 32*, 839–850. https://doi.org/10.1007/s43076-022-00187-2

Tan, C.-S., & Qu, L. (2015). Stability of the positive mood effect on creativity when task switching, practice effect, and test item differences are taken into consideration. *The Journal of Creative Behavior, 49*(2), 94–110. https://doi.org/10.1002/jocb.56

Tan, C.-S., Tan, S.-A., Mohd Hashim, I. H., Lee, M.-N., Ong, A. W.-H., & Yaacob, S. N. B. (2019). Problem-solving ability and stress mediate the relationship between creativity and happiness. *Creativity Research Journal, 31*(1), 15–25. https://doi.org/10.1080/10400419.2019.1568155

Tan, C.-Y., Chuah, C.-Q., Lee, S.-T., & Tan, C.-S. (2021). Being creative makes you happier: The positive effect of creativity on subjective well-being. *International Journal of Environmental Research and Public Health, 18*(14), 7244. https://doi.org/10.3390/ijerph18147244

Trujillo, C. A., & Rosa, J. A. (2017). Consumer creativity influenced by hope, integral emotions and socio-economic status. *International Journal of Consumer Studies, 41*(5), 576–586. https://doi.org/10.1111/ijcs.12369

Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science, 4*(3), 236–255. https://doi.org/10.1111/j.1745-6924.2009.01122.x

Volery, T., & Tarabashkina, L. (2021). The impact of organisational support, employee creativity and work centrality on innovative work behaviour. *Journal of Business Research, 129*, 295–303. https://doi.org/10.1016/j.jbusres.2021.02.049

Wang, C., Ilyas, B., Ni, G., & Rasheed, M. I. (2023). Leveraging employee engagement and creativity through ethical leadership: The role of employee ambidexterity in the hospitality industry. *Kybernetes*, Advance online. https://doi.org/10.1108/k-10-2022-1403

Xiang, G., Teng, Z., Li, Q., Chen, H., & Guo, C. (2020). The influence of perceived social support on hope: A longitudinal study of older-aged adolescents in China. *Children and Youth Services Review, 119*, 105616. https://doi.org/10.1016/j.childyouth.2020.105616

Yang, J., & Zhao, X. (2021). The effect of creative thinking on academic performance: Mechanisms, heterogeneity, and implication. *Thinking Skills and Creativity, 40*, 100831. https://doi.org/10.1016/j.tsc.2021.100831

Yang, Y., Xu, X., Liu, W., & Pang, W. (2020). Hope and creative self-efficacy as sequential mediators in the relationship between family socioeconomic status and creativity. *Frontiers in Psychology, 11*, 438. https://doi.org/10.3389/fpsyg.2020.00438

Yao, H., & Yu, Q. (2023). Graduate student challenge-hindrance scientific research stress and creativity: Mediating effect of creative self-efficacy. *Journal of Psychology in Africa, 33*(5), 448–454. https://doi.org/10.1080/14330237.2023.2246277

Yu, X., Li, D., Tsai, C.-H., & Wang, C. (2019). The role of psychological capital in employee creativity. *Career Development International, 24*(5), 420–437. https://doi.org/10.1108/CDI-04-2018-0103

Yuan, Z., Li, W., Ding, W., Song, S., Qian, L., & Xie, R. (2024). Your support is my healing: The impact of perceived social support on adolescent NSSI — A sequential mediation analysis. *Current Psychology, 43*(1), 261–271. https://doi.org/10.1007/s12144-023-04286-w

Zhang, Y., Liu, W., Liu, Y., Huang, Z., & Liu, Q. (2019). Chinese college students' optimism and social creativity mediated by creative self-efficacy and hope. *Social Behavior and Personality: An International Journal, 47*(7), 1–9. https://doi.org/10.2224/sbp.8268

Zhou, J., & George, J. M. (2003). Awakening employee creativity: The role of leader emotional intelligence. *The Leadership Quarterly, 14*(4–5), 545–568. https://doi.org/10.1016/S1048-9843(03)00051-1

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Authors and Affiliations

Chee-Seng Tan[1] · Jonathan E. Ramsay[2,3] · Sanju George[4] · Argel Bondoc Masanda[5] · Soon-Aun Tan[6] · Jing Zhang[1] · Siew-May Cheng[7] · Mark A. Runco[8,9] · Walton Wider[10,11,12]

✉ Chee-Seng Tan
cstan@outlook.my

1 School of Psychology, College of Liberal Arts, Wenzhou-Kean University, 88 Daxue Rd, Wenzhou 325060, Zhejiang province, China

2 College of Interdisciplinary and Experiential Learning, Singapore University of Social Sciences, 463 Clementi Road, Singapore 599494, Singapore

3 School of Social and Health Sciences, James Cook University, 149 Sims Drive, Singapore 387380, Singapore

4 Birmingham and Solihull Mental Health NHS Foundation Trust, Birmingham, United Kingdom

5 Department of Psychology, National University, Philippines, Manila City, Philippines

6 Department of Psychology and Counselling, Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Kampar, Malaysia

7 Department of Languages and Linguistics, Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Kampar, Malaysia

8 Southern Oregon University, Ashland, USA

9 Aalto University, Helsinki, Finland

10 Faculty of Business and Communications, INTI International University, Nilai, Malaysia

11 Department of Applied Economic Sciences, Wekerle Sándor Üzleti Főiskola, Budapest, Hungary

12 Faculty of Management, Shinawatra University, Pathum Thani, Thailand