

ORIGINAL RESEARCH

Could Purpose in Life Help Unmotivated Students to Thrive? When Motivation and Purpose in Life Matter for Peer Mentoring

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Purpose: The present study investigated the effect of extrinsic motivation, amotivation, the presence of and search for purpose, and their interaction effects on the perceived positive outcomes of being a peer mentor in college.

Methods: We tested a cross-sectional data using correlation design and moderation model. Participants were 232 undergraduate students who served as mentors for freshmen. Data was collected through an online survey.

Results: Extrinsic motivation was positively, but amotivation not significantly, associated with perceiving the benefits of being a mentor. The presence of and search for purpose showed positive correlation with positive outcomes. Both the search for and presence of purpose moderated the relation between amotivation and the positive outcomes of being a mentor.

Conclusion: The presence of purpose and the search for purpose moderates the relationship between amotivation and the positive outcomes of being a mentor.

Keywords: extrinsic motivation, amotivation, presence of purpose, search for purpose, mentor

Introduction

Mentoring has been studied in such broad contexts as organizations, graduate schools, among children and youth in foster care, and among children with learning disability. 1-5 The importance of mentoring for college has been reported in prior studies, such as having support from mentoring has been shown to positively predict students' academic and social integration into college, as well as their persistence in and commitment to educational goals. Furthermore, another study among high potential first-year college students from less affluent socioeconomic backgrounds reported the positive impact of mentoring on students' persistence, while Scott found peer mentoring programs an effective strategy to cultivate graduates' expected characteristics.^{7,8} In entrepreneurship education, mentoring for soft skills has been argued to play a key role in providing emotional, informational, and career support, and in linking students with their mentors as role models.9 Adopting the contemporary definition of mentoring, the current study investigated peer mentoring in higher education as a retention and enrichment strategy for students, one that is conducted outside the classroom and emphasizes sharing and learning. 10,11

Many researchers have focused on mentees' benefits, but mentors' motivation and the benefit they derive from their role are rarely discussed – and then in limited ways – in the following qualitative studies. Using interviews, Colvin and Ashman revealed peer mentors felt being a mentor was an opportunity to help others, to advance their own academic achievement, and to create a support system on campus. 12 Janssen illustrated that mentors' motives can be divided into five categories: self-focused; mentee-focused; relationship-focused; organizational-focused; and unfocused. 13 In an openended survey conducted among mentors for freshmen, several categories positive outcomes of being a mentor were

identified, including altruistic (joy of helping others), cognitive (gaining new skills/experiences), social (expanding the circle of friendship), and personal growth (cultivating sense of responsibility and confidence).¹⁴

The presence of purpose has also been widely studied as an important asset for enabling youth to thrive. A number of studies report that the presence of purpose is linked to positive psychological outcomes as well as career life. ^{15,16} Thus, a mentoring relationship is a support enabling young adults to develop their purpose. ¹⁷ Serving as a mentor brings meaning through self-reflection and satisfaction of basic psychological needs. ¹⁸

Most aforementioned studies about mentor motivation have been performed using a qualitative design; ^{12–14} few studies have included the role of purpose in life. This study investigated the impact of motivation and purpose in life on the benefits of being a mentor.

Motivation, Purpose, and Positive Outcomes of Being a Mentor

In one qualitative study, individuals serving as peer mentors for freshmen shared that their mentoring experiences had positive impacts on their personal and professional development, as they could apply what they learnt from mentoring to enhance their personal growth and explore its relevance for their future career. In a meta-analysis of mentoring in an organization, individuals serving as mentors were more likely to have higher job satisfaction, have a positive perception of their career, and display better job performance. Another longitudinal study followed the weekly logs of undergraduate mentors for children found they learnt lessons for their personal development, for that of the mentee, and for their relationship. A recent qualitative study among peer mentors documented that their leadership and communication skills were improved during mentoring. Based on these findings, positive outcomes of being a mentor comprise the extent to which mentors perceive their role as mentors to impact their academic performance, communication skills, leadership skills, career exploration, and other skills related to their personal development.

According to self-determination theory, human motivation falls on a continuum from amotivation to intrinsic motivation, with different motivations having different effects on one's well-being.²³ Deci and Ryan summarized various studies and reported that individuals with high intrinsic motivation tended to score higher on self-actualization, vitality, life satisfaction, identity, and intimacy resolution measures, while those prioritizing extrinsic motivation were more likely to suffer from ill-being.²⁴ Nevertheless, Brdar argued that having extrinsic motivation is not always deleterious to one's well-being, since pursuing rewards, fame, and tangible items can help individuals improve their disadvantaged condition.²⁵ Meanwhile, amotivation can be defined as

a state of motivational apathy in which students harbor little or no reason (motive) to invest the energy and effort that is necessary to learn or to accomplish something. 26

Based on self-determination theory, the role of motivation has been identified in online learning, physical exercise, and career aspiration. Motivation has also been found to play an important role in prosocial behavior.^{27–29} The well-being of individuals, both helpers and the helped, benefits from prosocial behavior only when that help is intrinsically motivated.³⁰ Mentors' different motivations influence the kind of mentoring they provide their protégés.³¹

Individuals can be drawn to being a mentor if they are interested in knowing more about personal development or to enjoy a mentoring experience. This is seen as intrinsic motivation. Motivation to be a mentor can also be driven by external rewards, such as gaining accolades or being popular among freshmen. Pursuing accolades and popularity might help mentors gain acceptance, social connections, and co-curricular experiences. Some may feel they "have to" mentor others or see mentoring as an important opportunity, despite it not being a preferred activity. It is also possible that some who apply to become a mentor may have no clear reason for doing so.

Research has shown intrinsic motivation to be a predictor of positive well-being, while extrinsic motivation tends to worsen one's well-being.³² However, there was a positive correlation between extrinsic motivation and academic achievement among Pakistani students, while Brdar reported that extrinsic motivation benefits those living in less-developed countries.^{25,33} Taiwanese college students were more likely to possess higher extrinsic motivation than their American counterparts.³⁴ A longitudinal study using a Chinese sample found that having extrinsic motivation facilitated the learning of individuals with low intrinsic motivation, as a sense of duty to their significant others and community

drove them to engage in learning.³⁵ Hence, extrinsic motivation is quite common and is not always harmful in less developed or collectivistic societies.

Meanwhile, amotivation was associated with poor well-being and high perceived stress. ^{36,37} A person with amotivation still performs the activities, but with less stable intention and less positive expectation. ³⁸ Amotivation was reported to increase over time and was found to negatively predict math achievement, while intrinsic and extrinsic motivation decreased. ³⁹ However, amotivation among students can be addressed through teaching style that satisfy students' autonomy needs. ²⁶

Intrinsic motivation has been widely documented to positively affect well-being and academic performance.^{40–44} It is interesting to examine whether extrinsic motivation and amotivation among mentors in a developing country, like Indonesia, will facilitate or hinder their having positive mentoring outcomes. Building on the findings from qualitative studies of the positive outcomes of being a mentor and several quantitative studies about the impact of motivation on one's well-being, the following hypotheses are proposed:

Hypothesis 1: Extrinsic motivation positively correlates to the positive outcomes of being a mentor.

Hypothesis 2: Amotivation negatively correlates to the positive outcomes of being a mentor.

Per Yeager having self-transcendent purpose can sustain young adults' academic self-regulation when working on boring assignments. Lens summarized several studies reporting that possessing a future orientation was associated with intrinsic motivation and better learning outcomes, while Phalet found that, despite their disadvantaged backgrounds, having future goals assisted minority youths to have intrinsic motivation and make better use of learning strategy, which in turn improved their academic achievement. A study among college students reported that those who reflected on their goals were more likely to be intrinsically motivated. As these studies have documented, the presence of purpose brings intrinsic motivation into less-preferred situations.

The search for purpose has been negatively associated with subjective and psychological well-being measures. ^{49–51} Searching for purpose was revealed to place extra burdens on individuals with high curiosity, leading to heightened emotional exhaustion. ⁵² However, another study set in a collectivistic society reported that searching for purpose was a positive moderator of the relation between positive affect and the presence of purpose; individuals in collectivistic society tend to regard the searching process as a maximization strategy for finding their best life choices. ⁵³ In a recent cross-national study, the search for purpose was argued to be a means of self-improvement, especially among externally constrained people or those living in countries with a collectivistic culture. ⁵⁴ Bailey and Phillips reported extrinsic motivation had a positive correlation with the presence of and search for purpose in life, but was not significantly correlated with life satisfaction. ⁵⁵ Moreover, amotivation had a positive correlation with depression and anxiety, but a negative correlation with life satisfaction and the presence of purpose in life. Considering the positive impact of purpose in life on increasing well-being and on buffering the negative impact of doing less-preferred assignments, the following hypotheses will be tested:

Hypothesis 3: The presence of purpose is positively linked to the positive outcomes of being a mentor.

Hypothesis 4: The search for purpose is positively linked to the positive outcomes of being a mentor.

Hypothesis 5: The presence of purpose positively moderates the relation between extrinsic motivation and the positive outcomes of being a mentor.

Hypothesis 6: The search for purpose positively moderates the relation between extrinsic motivation and the positive outcomes of being a mentor.

Hypothesis 7: The presence of purpose positively moderates the relation between amotivation and the positive outcomes of being a mentor.

Hypothesis 8: The search for purpose positively moderates the relation between amotivation and the positive outcomes of being a mentor.

Hypothesis 5-8 are depicted in Figures 1-4.

Materials and Method

Ethics Statement

The present study was approved by the local ethics committee at the Universitas Ciputra, Surabaya. Prior to participation, informed consent was obtained from all participants. The present research followed the rules mentioned in the Declaration of Helsinki, ensuring the protection of participants' rights, privacy, and confidentiality throughout the research process. This means that the rights and privacy of the participants were taken care of and kept confidential during the study.

Participants

In total, from 310 mentors who received the link of the online questionnaire, 232 mentors participated in the present study, of whom 78% were female, with 72.5% of participants being second-year college students. The mentors were sophomores drawn from a variety of study majors and serving protégés from the same study program in a private university. We recruited mentors have served the mentee at least one semester. Training and modules were provided to

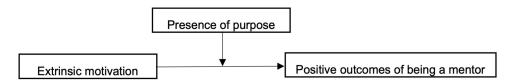


Figure I Moderation model stated in the Hypothesis 5.

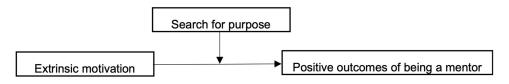


Figure 2 Moderation model stated in the Hypothesis 6.

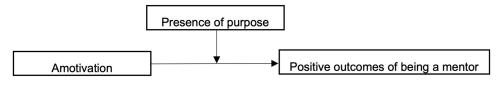


Figure 3 Moderation model stated in the Hypothesis 7.

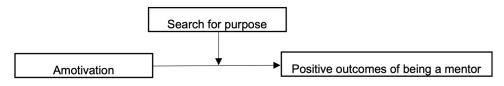


Figure 4 Moderation model stated in the Hypothesis 8.

help mentors deliver mentoring topics for their freshman protégés fortnightly, in groups of six to 10 students. Designed as a cocurricular program, the mentoring covered both academic and non-academic issues, including personal goals, adjusting to college learning, and building friendships. A survey link was distributed after mentors' last scheduled meeting with their protégés. The anonymity of the participants is preserved since no names or other identifiers of the participants were gathered. All participants gave their consent to join this research.

Measures

Mentoring Motivation Scale

Originally developed as the Academic Motivation Scale, the scale was validated in Indonesian by Natalya and Purwanto. The sentences in the extrinsic and amotivation subscales were changed from an academic setting to a mentoring context, such as "Honestly, I don't know; really feel that I'm wasting my time in mentoring". Participants were required to rate each item based on their reason for being a mentor, using a seven-point Likert scale (1=does not correspond at all; 7=corresponds exactly).

Purpose in Life Scale

We used the Stanford Center on Adolescence Purpose Scale to measure the presence of purpose (three items) and the search for purpose (two items) among participants, again with a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). The Indonesian version has been validated in an Indonesian sample, with both subscales having good internal consistency (Cronbach's alpha for presence of purpose = 0.85 and for search for purpose = 0.65). The presence of purpose was negatively linked to neuroticism (r=-0.10, p<0.05) and depressive symptom (r=-0.27, p<0.001) while the search for purpose was positively linked to neuroticism (r=0.16, p<0.01) and depressive symptom (r=-0.12, p<0.05).

Positive Outcomes of Being a Mentor

To measure the positive outcomes of being a mentor, 14 items were created based on areas or skills that were perceived to thrive during mentoring experience in prior studies. These 14 items covered mentors' perceptions of the impact of being a mentor on their own academic achievement, communication, leadership, self-knowledge, caring for others, and career exploration. Participants rated the items using a seven-point Likert scale, ranging from strongly disagree to strongly agree.

Statistical Analyses

Analyses were conducted using JASP 012.2.⁶⁰ There were no data exclusion and no missing data. Hypothesis 1–4 were tested using Pearson's correlation test since the data were normally distributed. Using multiple regression analyses, several moderation models from Hypotheses 5–8 were examined to test the proposed hypotheses.

Results

As shown in Table 1, using Cronbach's alpha and McDonald's omega, all scales showed good internal consistency. Extrinsic motivation had a positive relation with the positive outcomes of being a mentor; thus, the first hypothesis was supported. However, there was no significant negative correlation between amotivation and the positive outcomes of being a mentor.

There was a strong correlation between the presence of purpose and the positive outcomes of being a mentor. Moreover, seeking a purpose in life was positively associated with enjoying positive outcomes as a mentor.

Table 2 presents the results for the fifth hypothesis. In the first step, extrinsic motivation and presence of purpose were added to the model. Both served as significant predictors of the positive outcomes of being a mentor ($R^2 = 0.34$, F(2, 229) = 41.55, p < 0.001). The interaction of extrinsic motivation and presence of purpose was then included, but was not found to account for a significant proportion of the variance in the positive outcomes of being a mentor $\Delta R^2 = 0.002$, $\Delta F(1, 228) = 0.78$, p = 0.38, $\beta = -0.32$, (228) = 0.88, p = 0.38. Hence, the presence of purpose failed to act as moderator between extrinsic motivation and the positive outcomes of being a mentor and emerged as better predictor of positive outcomes than of extrinsic motivation. In other words, the fifth hypothesis was not supported.

Table I Descriptive Statistics, Reliability, and Pearson's Correlations Between Variables

Variables	I	2	3	4	5
I. Extrinsic motivation	(0.89, 0.89)				
2. Amotivation	0.44***	(0.96, 0.96)			
3. Presence of purpose	0.35***	-0.02	(0.91, 0.91)		
4. Search for purpose	0.38***	-0.0 I	0.37***	(0.82, 0.82)	
5. Positive outcomes of being a mentor	0.44***	-0.07	0.61***	0.41***	(0.93, 0.93)
М	4.6	2.98	5.48	5.5	5.84
SD	1.08	1.65	1.13	1.18	0.81

Notes: ****p<0.001. First bracketed coefficient is Cronbach's alpha; the second is McDonald's omega.

Table 2 The Relation Between Extrinsic Motivation and the Positive Outcomes of Being a Mentor, with Presence of Purpose as Moderator

	Step I			Step 2		
	В	SE	Þ	ß	SE	Þ
Extrinsic motivation	0.28	0.04	<0.001	0.49	0.18	0.045
Presence of purpose	0.51	0.04	<0.001	0.68	0.15	<0.001
Extrinsic motivation x Presence of purpose				-0.32	0.03	0.38
R ²	0.428			0.43		
F change	85.63			0.78		
p change	<0.001			0.38		

Note: B= standardized regression coefficient.

To test the sixth hypothesis, a hierarchical regression model was run in which extrinsic motivation and searching for purpose were included to predict the positive outcomes of being a mentor (see Table 3). The results revealed that this model was significant ($R^2 = 0.42$, F(2, 229) = 83.27, p < 0.001). In the second step, the interaction of extrinsic motivation and searching for purpose was entered to the model, but did not significantly predict the positive outcomes of being

Table 3 The Relation Between Extrinsic Motivation and the Positive Outcomes of Being a Mentor, with Search for Purpose as Moderator

	Step I			Step 2		
	В	SE	Þ	В	SE	Þ
Extrinsic motivation	0.38	0.04	<0.001	0.58	0.22	0.045
Search for purpose	0.26	0.04	<0.001	0.43	0.17	0.08
Extrinsic motivation x Search for purpose				-0.29	0.04	0.48
R ²	0.26			0.27		
F change	41.55			0.49		
p change	<0.001			0.48		

Note: B= standardized regression coefficient.

a mentor ($\Delta R^2 = 0.002$, $\Delta F(1, 228) = 0.49$, p = 0.48, $\beta = -0.29$, t(228) = -0.70, p=0.48). Extrinsic motivation was found to be a stronger predictor of positive outcomes than was searching for purpose.

Hypothesis 7 was tested, and the results are presented in Table 4. The result showed that the two-way interaction effect had a small but significant effect on the positive outcomes of being a mentor. Simple slope analyses were conducted, following the steps suggested by Carden and using Johnson-Neyman's technique. Hentors lacking motivation to be a mentor and possessing low sense of purpose (one standard deviation below mean) were less likely to enjoy positive outcomes (b=-.08, SE=0.05, 95% CI -0.19 to 0.03) than were their counterparts who lacked motivation to be a mentor but had a high sense of purpose (one standard deviation above mean), b=-.02, SE=0.03, 95% CI -0.08 to 0.04.

To examine whether the search for purpose could also help mentors with low motivation attain the positive outcomes of being a mentor (Hypothesis 8), a hierarchical regression model was run. As presented in Table 5, moderation analysis showed that the interaction effect was statistically significant, with mentors who lacked motivation but who searched for purpose tending to report more positive outcomes (b=0.01, SE=0.04, 95% CI -0.07 to 0.08) than those who lacked motivation to be a mentor and did not seek any purpose (b=-.05, SE=0.06, 95% CI -0.16 to 0.07).

Table 4 The Relation Between Amotivation and the Positive Outcomes of Being a Mentor, with Presence of Purpose as Moderator

	Step I			Step 2			
	В	SE	Þ	В	SE	Þ	
Amotivation	-0.06	0.03	0.29	-0.70	0.17	0.03	
Presence of purpose	0.60	0.04	<0.001	0.42	0.08	<0.001	
Amotivation x Presence of purpose				0.69	0.03	0.045	
R ²	0.36			0.37			
F change	64.92			4.05			
p change	<0.001			0.04			

Note: B = standardized regression coefficient.

Table 5 The Relation Between Amotivation and the Positive Outcomes of Being a Mentor, with Search for Purpose as Moderator

	Step I			Step 2			
	В	SE	Þ	В	SE	Þ	
Amotivation	-0.04	0.03	0.58	-0.85	0.16	<0.001	
Searching for purpose	0.36	0.04	<0.001	0.11	0.08	0.408	
Amotivation x Searching for purpose				0.89	0.03	0.02	
R ²	0.13			0.15			
Fchange	17.47			5.12			
p change	<0.001			0.02			

Note: β = standardized regression coefficient.

Discussion

This study has assessed the role of extrinsic motivation, amotivation, presence of and search for purpose, and their interaction effects on the positive outcomes of being a mentor. We found that being a mentor with extrinsic motivation was positively correlated with the perceived benefits of the experience. Having such underlying reasons as attaining accolades, gaining popularity among freshmen, seeking approval for one's ability, or using the mentoring experience to support one's future career pathway does not prevent mentors from reaping the benefits of mentoring.

The present study revealed that amotivation did not have significant negative correlation with the positive outcomes of being a mentor and other variables. These results differ from those of several published studies. ^{24,36} Perhaps mentors who do not have a clear reason for being a mentor could prioritize other co-curricular and extracurricular activities and still positively impact their personal skills.

Furthermore, we observed a strong and positive correlation between the presence of purpose and the positive outcomes of being a mentor. This evidence supports the third hypothesis, suggesting the more individuals searched for purpose, the greater the likelihood they would experience personal development from mentoring. Yearning for an ultimate aim in life may immerse mentors in exploring others' needs and help them refine specific skills needed for life after college. A prior study have reported that searching for purpose is a rewarding process, particularly when one successfully finds one's purpose in life.⁵⁴ In the present study, searching for purpose was positively correlated to the presence of purpose, corroborating the findings of other studies conducted in Japan.⁵¹ Deriving meaning from interpersonal relationships helps the purpose seeker enjoy wellbeing, and experiencing personal growth is a positive predictor of the search for meaning.⁶³ Therefore, though searching for purpose was negatively correlated with well-being, interactions with mentees and willingness to achieve personal growth among mentors seeking purpose might bring positive psychological outcomes.⁶⁴

The present study has been unable to show that both the presence of and search for purpose moderated the relation between extrinsic motivation and the positive outcomes of being a mentor. It seems that doing mentoring out of perceived obligation or in pursuit of rewards is sufficient to facilitate one's personal development. Having or searching for a longterm purpose neither strengthened nor weakened that relation.

Another interesting result from our study was that the presence of purpose was a better predictor of the positive outcomes of mentoring than extrinsic motivation. However, our evidence also showed that extrinsic motivation had a stronger correlation with positive outcomes that did the search for purpose. Having purpose might sustain one's behavior longer than extrinsic motivation, since pursuing something that is aligned with one's interests tends to produce better progress. 65 These results are in line with those of previous studies that show the presence of purpose managed and maintained behavior.66

While one's search for purpose may not have yielded specific results in the short term, immediate gain from mentoring (accolades, popularity, adding to one's curriculum vitae, etc.) did help mentors experience positive psychological outcomes. Individuals were more likely to choose immediate rewards over delayed, as immediate rewards could sustain one's adherence to one's long-term goals.⁶⁷ That finding is likely to be related to the present evidence.

The presence of purpose was found to help unmotivated mentors attain the benefits of the mentoring experience. Though these mentors did not have a clear reason to serve as a mentor, their having a purpose may provide them with a bigger picture with which to navigate life. Corroborating the role of purpose in motivating students during unattractive academic assignments, this also works in a mentoring context.⁴⁵

Individuals scoring high in amotivation and high in the search for purpose were more likely to experience positive outcomes of being a mentor than were unmotivated mentors searching for purpose. This result seems to be in agreement with prior studies that found searching for purpose as a means of maximizing gains and improving oneself. 53,54

Conclusion

This research revealed that being a mentor with extrinsic motivation positively correlates to the positive outcomes of being a mentor. Both having a purpose and searching for a purpose had positive correlations to the positive outcomes of being a mentor. Another important finding is that mentors with low motivation of being a mentor but having high sense

of purpose were more likely to experience a positive outcome of being a mentor. In addition, those who are not motivated to be a mentor but are seeking for a purpose also could derive benefits of being a mentor.

It is possible that these results may be biased, because the survey was distributed during the last week of a mentoring period, during which time mentors attended a workshop about "Passion and Purpose". To measure the positive outcomes of being a mentor, the mentor was asked to rate whether he or she perceived positive outcomes in academic performance and several sets of soft skills during mentoring. Rather than specific scales on communication, leadership, or other soft skills, we used objective measures of academic achievement, such as changes in one's GPA while serving as a mentor.

Notwithstanding those limitations, this research has provided additional evidence of the importance of motivation and purpose for mentors. As mentoring programs are regularly provided for freshmen in Indonesia, universities attempt to attract and recruit mentors through promises of rewards or benefits. It is possible that undergraduate students may apply based on extrinsic motivation and lacking any clear reason for doing so. Offering rewards is not always harmful, as long as the mentors are encouraged to find their purpose and make their experiences as mentor correspond to their ultimate aim.

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Disclosure

The authors report no conflicts of interest in this work.

References

- Park JH, Newman A, Zhang L, Wu C, Hooke A. Mentoring functions and turnover intention: the mediating role of perceived organizational support. Int J Hum Resour Manag. 2016;27(11):1173–1191. doi:10.1080/09585192.2015.1062038
- Tenenbaum HR, Crosby FJ, Gliner MD. Mentoring relationships in graduate school. J Vocat Behav. 2001;59(3):326–341. doi:10.1006/jvbe.2001.1804
- 3. Greeson JK. Foster youth and the transition to adulthood: the theoretical and conceptual basis for natural mentoring. *Emerg Adulthood*. 2013;1 (1):40–51. doi:10.1177/216769681246778
- 4. Greeson JK, Weiler LM, Thompson AE, Taussig HN. A first look at natural mentoring among preadolescent foster children. *J Community Psychol.* 2016;44(5):586–601. doi:10.1002/jcop.21788
- 5. Haft SL, Chen T, LeBlanc C, Tencza F, Hoeft F. Impact of mentoring on socio-emotional and mental health outcomes of youth with learning disabilities and attention-deficit hyperactivity disorder. *Child Adolesc Ment Health*. 2019;24(4):318–328. doi:10.1111/camh.12331
- 6. Crisp G. The impact of mentoring on the success of community college students. *Rev Higher Educ*. 2010;34(1):39–60. doi:10.1353/rhe.2010.0003
- 7. Hu S, Ma Y. Mentoring and student persistence in college: a study of the Washington State Achievers Program. *Innovat Higher Educ*. 2010;35 (5):329–341. doi:10.1007/s10755-010-9147-7
- 8. Scott CA, McLean A, Golding C, How peer mentoring forsters graduate attributes, J Peer Learn. 2019;12:29-44.
- 9. Yuliawati L. Quo vadis: mentoring in entrepreneurship education? *J Entrepreneur Entrepreneurship*. 2019;2(1–2):23–28. doi:10.37715/jee. v2i1.2.151
- Mullen CA, Klimaitis CC. Defining mentoring: a literature review of issues, types, and applications. Ann N Y Acad Sci. 2019;1–17. doi:10.1111/ nyas.14176
- 11. Jacobi M. Mentoring and undergraduate academic success: a literature review. Rev Educ Res. 1991;61(4):505-532. doi:10.2307/1170575
- 12. Colvin JW, Ashman M. Role, risks, and benefits of peer mentoring relations in higher education. *Mentor Tutor*. 2010;18(2):2010. doi:10.1080/13611261003678879
- 13. Janssen S, van Vuuren M, de Jong MDT. Motives to mentor: self-focused, protégé-focused, relation-focused, organization-focused, and unfocused motives. *J Vocat Behav.* 2014;85(3):266–275. doi:10.1016/j.jvb.2014.08.002
- 14. Beltman S, Schaeben M. Institution-wide peer mentoring: benefits for mentors. *Int J First Year Higher Educ*. 2012;3(2):33–44. doi:10.5204/intjfyhe.v3i2.124
- 15. Burrow AL, Hill PL. Purpose as a form of identity capital for positive youth adjustment. Dev Psychol. 2011;47(4):1196–1206. doi:10.1037/a0023818
- Yuliawati L, Ardyan E. The role of life planning in finding purpose and living out one's career calling among Indonesian emerging adults. J Career Dev. 2020;49(3):538–550. doi:10.1177/0894845320950834
- 17. Bronk KC. Purpose in Life: A Critical Component of Optimal Youth Development. Springer; 2013.
- 18. Kennett P, Lomas T. Making meaning through mentoring: mentors finding fulfillment at work through self-determination and self-reflection. *Int J Evid Based Coach Mentor*. 2015;13:29–44.

19. Harmon B. A qualitative study of the learning processes and outcomes associated with students who serve as peer mentors. *J First Year Exper Students Transit*. 2006;18(2):53–82.

- 20. Ghosh R, Reio TG. Career benefits associated with mentoring for mentors: a meta-analysis. *J Vocat Behav.* 2013;83(1):106–116. doi:10.1016/j. jvb.2013.03.011
- 21. Schmidt ME, Marks JL, Derrico L. What a difference mentoring makes: service learning and engagement for college students. *Mentor Tutor*. 2004;12(2):205–217. doi:10.1080/1361126042000239947
- 22. Miller H, Bosselait L, Venturato L, et al. Benefits of peer mentoring in prelicensure nursing education: a dual perspective. *Nurse Educ*. 2019;44 (3):159–163. doi:10.1097/NNE.000000000000573
- Ryan RM, Deci EL. Intrinsic and extrinsic motivations: classic definitions and new directions. Contemp Educ Psychol. 2000a;25(1):54–67. doi:10.1006/ceps.1999.1020
- 24. Deci EL, Ryan RM. The "what" and "why" of goal pursuits: human needs and the self-determination of behavior. *Psychol Inq*. 2000;11 (4):227–268. doi:10.1207/S15327965PLI1104 01
- 25. Brdar I, Majda R, Dubravka M. Life goals and well-being: are extrinsic aspirations always detrimental to well-being? *Psihologijske Teme*. 2009;18 (2):317–334.
- Cheon SH, Reeve J. A classroom-based intervention to help teachers decrease students' amotivation. Contemp Educ Psychol. 2015;40:99–111. doi:10.1016/j.cedpsych.2014.06.004
- 27. Chen K-C, Jang S-J. Motivation in online learning: testing a model of self-determination theory. *Comput Human Behav.* 2010;26(4):741–752. doi:10.1016/j.chb.2010.01.011
- 28. Wang JCK, Morin AJS, Ryan RM, Liu WC. Students' motivational profiles in the physical education context. *J Sport Exerc Psychol.* 2016;38 (6):612–630. doi:10.1123/jsep.2016-0153
- 29. Girouard S, Forest J. A career path leading to well-being and success. Can J Administr Sci. 2018. doi:10.1002/CJAS.1488
- 30. Weinstein N, Ryan RM. When helping helps: autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. J Pers Soc Psychol. 2010;98(2):222–244. doi:10.1037/a0016984
- 31. Allen TD. Mentoring others: a dispositional and motivational approach. J Vocat Behav. 2003;62(1):134–154. doi:10.1016/S0001-8791(02)00046-5
- 32. Ayub N. Effect of intrinsic and extrinsic motivation on academic performance. Pakistan Bus Rev. 2010;12:363-372.
- 33. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psychologist*. 2000b;55(1):68–78. doi:10.1037/0003-066X.55.1.68
- 34. Cheng W. How intrinsic and extrinsic motivations function among college student samples in both Taiwan and the U.S. *Educ Psychol*. 2018;39 (4):430–447. doi:10.1080/01443410.2018.1510116
- 35. Liu Y, Hau K-T, Liu H, Wu J, Wang X, Zheng X. Multiplicative effect of intrinsic and extrinsic motivation on academic performance: a longitudinal study of Chinese students. *J Pers*. 2020;88(3):584–595. doi:10.1111/jopy.12512
- 36. Ryan RM, Deci EL. Intrinsic and extrinsic motivation from a self-determination theory perspective: definitions, theory, practices, and future directions. Contemp Educ Psychol. 2020;61:101860. doi:10.1016/j.cedpsych.2020.101860
- 37. Baker SR. Intrinsic, extrinsic, and amotivational orientations: their role in university adjustment, stress, well-being, and subsequent academic performance. Curr Psychol. 2004;23(3):189–202. doi:10.1007/s12144-004-1019-9
- 38. Sheldon KM, Prentice M. Self-determination theory as a foundation for personality researchers. J Pers. 2019;87(1):5–14. doi:10.1111/jopy.12360
- 39. Leroy N, Bressoux P. Does amotivation matter more than motivation in predicting mathematics learning gains? A longitudinal study of sixth-grade students in France. *Contemp Educ Psychol.* 2016;44–45:41–53. doi:10.1016/j.cedpsych.2016.02.001
- 40. Dobrow Riza S, Heller D. Follow your heart or your head? A longitudinal study of the facilitating role of calling and ability in the pursuit of a challenging career. *J Appl Psychol.* 2015;100(3):695–712. doi:10.1037/a0038011
- 41. Froiland JM, Worrell FC. Intrinsic motivation, learning goals, engagement, and achievement in a diverse high school. *Psychol Sch.* 2016;53 (3):321–336. doi:10.1002/pits.21901
- 42. Karlen Y, Suter F, Hirt C, Maag Merki K. The role of implicit theories in students' grit, achievement goals, intrinsic and extrinsic motivation, and achievement in the context of a long-term challenging task. *Learn Individ Differ*. 2019;74:101757. doi:10.1016/j.lindif.2019.101757
- 43. Simons J, Leverett S, Beaumont K. Success of distance learning graduates and the role of intrinsic motivation. *Open Learn*. 2019;1–17. doi:10.1080/02680513.2019.1696183
- 44. Wei WY, Wang J, Yang H, Wang X, Cheng J. An investigation of academic self-efficacy, intrinsic motivation and connected classroom climate on college students' engagement in blended learning, 2019. *Int Sympos Educ Technol*. 2019;160–164. doi:10.1109/ISET.2019.00041
- 45. Yeager DS, Henderson MD, Paunesku D, et al. Boring but important: a self-transcendent purpose for learning fosters academic self-regulation. J Pers Soc Psychol. 2014;107(4):559–580. doi:10.1037/a0037637
- 46. Lens W, Paixao MP, Herrera D, Grobler A. Future time perspective as a motivational variable: content and extension of future goals affect the quantity and quality of motivation. *Jpn Psychol Res.* 2012;54(3):321–333. doi:10.1111/j.1468-5884.2012.00520.x
- 47. Phalet K, Andriessen I, Lens W. How future goals enhance motivation and learning in multicultural classrooms. *Educ Psychol Rev.* 2004;16 (1):59–89. doi:10.1023/B:EDPR.0000012345.71645.d4
- 48. Conti R. College goals: do self-determined and carefully considered goals predict intrinsic motivation, academic performance, and adjustment during the first semester? Soc Psychol Educ. 2000;4(2):189–211. doi:10.1023/A:1009607907509
- 49. Krok D. When is meaning in life most beneficial to young people? Styles of meaning in life and well-Being among late adolescents. *J Adult Dev.* 2018;25(2):96–106. doi:10.1007/s10804-017-9280-y
- 50. Steger MF, Kashdan TB, Sullivan BA, Lorentz D. Understanding the search for meaning in life: personality, cognitive style, and the dynamic between seeking and experiencing meaning. *J Pers.* 2008;76(2):199–228. doi:10.1111/j.1467-6494.2007.00484.x
- 51. Steger MF, Kawabata Y, Shimai S, Otake K. The meaningful life in Japan and the United States: levels and correlates of meaning in life. *J Res Pers*. 2008;42(null):660–678. doi:10.1016/j.jrp.2007.09.003
- 52. Garrosa E, Blanco-Donoso LM, Carmona-Cobo I, Moreno-Jiménez B. How do curiosity, meaning in life, and search for meaning predict college students' daily emotional exhaustion and engagement? *J Happiness Stud.* 2017;18(1):17–40. doi:10.1007/s10902-016-9715-3
- 53. Datu JAD. The synergistic interplay between positive emotions and maximization enhances meaning in life: a study in a collectivist context. *Curr Psychol.* 2016;35(3):459–466. doi:10.1007/s12144-015-9314-1

54. Lin L, Chan H. When is search for meaning in life beneficial for well-being? A cross-national study. *Int J Psychol.* 2020;56(1):75–84. doi:10.1002/ijop.12696

- 55. Bailey TH, Phillips LJ. The influence of motivation and adaptation on students' subjective well-being, meaning in life and academic performance. Higher Educ Res Dev. 2016;35(2):201–216. doi:10.1080/07294360.2015.1087474
- 56. Vallerand RJ, Pelletier LG, Blais MR, Briere NM, Senecal C, Vallieres EF. The Academic Motivation Scale: a measure of intrinsic, extrinsic, and amotivation in education. *Educ Psychol Meas*. 1992;52(4):1003–1017. doi:10.1177/0013164492052004025
- 57. Natalya L, Purwanto CV. Exploratory and confirmatory factor analysis of the academic motivation scale (AMS)–Bahasa Indonesia. *Makara Hum Behav Stud Asia*. 2018;22(1):29–42. doi:10.7454/hubs.asia.2130118
- 58. Bundick MJ, Andrews MC, Jones A, et al. Youth Purpose Survey Version 2008 [Unpublished instrument]. Stanford Center on Adolescence; 2008.
- 59. Yuliawati L. Predictors and Outcomes of a Sense of Purpose in Life: A Longitudinal Study in Hong Kong and Indonesia. Hong Kong: The University of Hong Kong; 2018.
- 60. JASP Team. JASP (Version 0.12.2)[Computer Software]; 2020.
- Carden SW, Holtzman NS, Strube MJ. CAHOST: an Excel workbook for facilitating the Johnson-Neyman technique for two-way interactions in multiple regression. Front Psychol. 2017;8:1293. doi:10.3389/fpsyg.2017.01293
- 62. Johnson PO, Neyman J. Tests of certain linear hypotheses and their applications to some educational problems. Statist Res Memoirs. 1936;1:57–93.
- 63. Grouden ME, Jose PE. Do sources of meaning differentially predict search for meaning, presence of meaning, and wellbeing? *Int J Wellbeing*. 2015;5(1):33–52. doi:10.5502/ijw.v5i1.3
- 64. Steger MF, Oishi S, Kashdan TB. Meaning in life across the life span: levels and correlates of meaning in life from emerging adulthood to older adulthood. J Posit Psychol. 2009;4(1):43–52. doi:10.1080/17439760802303127
- 65. Werner KM, Milyavskaya M, Foxen-Craft E, Koestner R. Some goals just feel easier: self-concordance leads to goal progress through subjective ease, not effort. *Pers Individ Dif.* 2016;96:237–242. doi:10.1016/j.paid.2016.03.002
- 66. McKnight PE, Kashdan TB. Purpose in life as a system that creates and sustains health and well-being: an integrative, testable theory. *Rev General Psychol.* 2009;13(3):242–251. doi:10.1037/a0017152
- 67. Woolley K, Fishbach A. Immediate rewards predict adherence to long-term goals. Pers Soc Psychol Bull. 2016;43(2):151–162. doi:10.1177/0146167216676480

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