

Sociology & Cultural Research Review (SCRR) Available Online: <a href="https://scrrjournal.com">https://scrrjournal.com</a> Print ISSN: <a href="mailto:3007-3103">3007-3103</a> Online ISSN: <a href="mailto:3007-3111">3007-3111</a> Platform & Workflow by: <a href="mailto:0pen Journal Systems">Open Journal Systems</a>



# Understanding Meaning in Life: The Influence of Sensation Seeking, Need for Closure, and Collective Narcissism

# **Hayat Muhammad**

Assistant Professor, Department of Psychology, University of Peshawar **Ayan Saddique** 

Department of Psychology, University of Peshawar

Zabih Ullah

Department of Psychology, University of Peshawar

**Basharat Hussain** 

Department of Psychology, University of Peshawar

Yasir Afridi

Department of Psychology, University of Peshawar

Shahzeb

Department of Psychology, University of Peshawar

Shakir Ullah

PhD Scholar, Department of Psychology, University of Haripur

## **ABSTRACT**

This study explored how three psychological traits sensation seeking, need for closure, and collective narcissism predict an individual's perceived meaning in life. A sample of participants completed standardized self-report measures assessing these traits alongside their reported levels of life meaning. Regression analysis revealed that both sensation seeking (B = 0.300, B = 0.293, P < .001) and need for closure (B = 0.352, B = 0.332, P < .001) were significant positive predictors of meaning in life. In contrast, collective narcissism demonstrated a small but significant negative relationship (B = -0.175, B = 0.135, P < .05). Together, these variables accounted for 21.8% of the variance in meaning in life (B = .218). The findings suggest that individuals who pursue novelty and prefer cognitive structure are more likely to perceive their lives as meaningful, whereas inflated, insecure group-based pride may be detrimental to one's sense of purpose.

**Keyword:** Life, Sensation Seeking, Closure, Collective Narcissism, Cognitive Structure Introduction

Sensation seeking is defined as the propensity to pursue novel, diverse, multifaceted, and passionate experiences and sensations, along with a will to yield physical, social, lawful, and financial dangers to obtain such experiences (Zuckerman, 1994, p. 27). This personality attribute is typically measured using standardized self-report tools such as the Sensation Seeking Scale, Form V (SSS-V). According to Zuckerman, Eysenck, and Eysenck (1978), sensation seeking comprises four key dimensions: adventure and venture seeking, experience pursuing, disinhibition, and dullness proneness. The current understanding of sensation seeking is grounded in a multidimensional model that incorporates genetic, biological, psychophysiological, and social influences (Zuckerman, 1983, 1984, 1990, 1994, 1996; Zuckerman, Buchsbaum, & Murphy, 1980). These factors shape individual performances, attitudes, and preferences.

People high in sensation seeking typically involve in behaviors that heighten their sensory stimulation. These behaviors—such as pursuing high-intensity careers, using drugs, or reckless driving—are driven by the desire for increased arousal. While the specific activities chosen differ in the level of risk they carry, risk-taking itself is not the central purpose. Rather, sensation seekers accept danger as a possible consequence of achieving heightened stimulation, but they do not deliberately seek out hazard for its own sake (Zuckerman, 1994). Human beings possess a deep-seated drive to recognize both themselves and the world around them, engaging in various cognitive and behavioral efforts to support this drive (Epstein, 1985; Heine, Proulx, & Vohs, 2006; Higgins, 2000; Janoff-Bulman, 1992; Ryff & Singer, 1998). The experience of meaning in life is believed to occur when individuals feel a sense of comprehension about who they are, how they fit into the world, and what they aim to achieve (Steger, in press). Consequently, individuals are generally encouraged both to possess a sense of meaning and to seek it out. However, the extent to which individuals actively pursue meaning varies from person to person. The "search for meaning in life" is defined as the degree of power, strength, and effort people put into developing or enhancing their understanding of life's meaning, significance, and purpose. Different theoretical perspectives view the search for meaning in contrasting ways. Some, like Frankl (1963) and Maddi (1970), regard it as a central and healthy aspect of human motivation, describing it as the fundamental driving force that leads people to embrace new challenges and make sense of their experiences. From this standpoint, the search is a constructive, life-affirming process. In contrast, others such as Baumeister (1991) and Klinger (1998) see the search as a response to psychological distress, suggesting that individuals only seek meaning when their core needs have been unmet, making the search a sign of dysfunction.

A third view, proposed by Reker (2000), acknowledges both interpretations—recognizing that the search for meaning can stem from either positive (life-affirming) or negative (deficit-based) motivations. Building on this, we suggest a new probability: that the quest for meaning may arise from diverse causal motivations in altered individuals, and its associations with well-being or distress may vary depending on these diverse motivational roots.

It appears that individuals seeking to enhance their sense of hope in life should focus on improving their overall quality of life. In this regard, quality of life may serve as a key determinant of life expectancy. According to Cella (1995), quality of life encompasses all aspects related to an individual's well-being. Billington, Landon, Krägeloh, and Shepherd (2010) define it as an individual's insight of their place in life within the background of their cultural and value structures, and in relative to their personal goals, anticipations, principles, and apprehensions. McMillan and Weitzner (1998) further conceptualize quality of life as comprising psychological, physiological, functional, and spiritual-social dimensions of well-being. The Mental Health Services Palliative Care Development Group outlines several components that contribute to quality of life from a holistic perspective. These include physical well-being (e.g., pain resistor, symptom controlling), functional capacity (such as performing daily activities), family well-being, emotional health, spirituality (which varies across individuals), social support, satisfaction with therapeutic interventions, cultural beliefs, and personal aspirations including future plans, faiths, and visions.

In contrast, Zuckerman (1994) defined sensation seeking as a personality attribute characterized by the pursuit of diverse, unique, and multifaceted sensations and experiences.

According to him, sensation seeking can manifest in behaviors such as drug use, aggression, risky sexual behavior, thrill-seeking activities (e.g., mountaineering, extreme sports), and the attraction to high-stimulation activities like physical interaction sports and exciting computer games. Empirical research has linked sensation seeking to a range of risky and potentially harmful behaviors. For example, studies have shown associations with illegal drug use (Gallagher & Lopez, 2009; Jenaabadi & Nastiezaie, 2011; Maslowsky et al., 2011; Giné et al., 2013), risky sexual behavior (Lu, 2008; Mariani, Perez-Barahona, & Raffin, 2010), thoughtless driving (Ortin et al., 2012), smoking (Zuckerman, Ball, & Black, 1990), alcohol exploitation (Stacy, Newcomb, & Bentler, 1993), and family dysfunction (Sands, Goldberg-Glen, & Shin, 2009; Sanchez-Alvarez et al., 2013). Fiori and Antonakis (2012) also highlight these associations in their analysis of the links between sensation seeking and various maladaptive behaviors.

The need for closure refers to individual differences in how people respond to ambiguity, specifically the extent to which they find unclear answers, opinions, or judgments to be unpleasant or distressing (Kruglanski & Webster, 1996). Individuals who are particularly averse to ambiguity tend to be motivated to form clear, definitive interpretations of both social and non-social information. This motivation is typically expressed through two key processes: *urgency*, the drive to reach closure quickly, and *permanence*, the tendency to maintain and resist revising that closure over time. However, this conceptualization has been challenged by researchers such as Neuberg, Judice, and West (1997). Their findings suggest that two of the three core components traditionally thought to define the need for closure lack valid measurement, while the third overlaps with the concept of fear of being wrong (fear of invalidity). Furthermore, the remaining valid components closely resemble the two factors associated with the need for structure, raising questions about whether assessments truly capture distinct constructs.

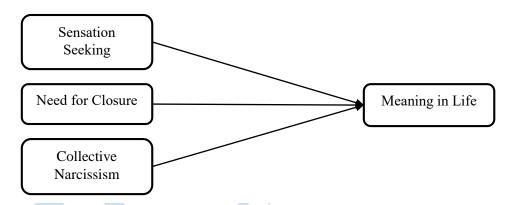
This overlap makes it difficult to determine whether assessments are measuring the need for closure, the need for structure, or something else entirely. Additionally, these cognitive styles may not be conceptually separate from other established personality traits. Two prominent variables *dogmatism* and *intolerance of ambiguity* appear to be closely related to both the need for closure and the need for structure.

Rokeach (1960), in his work on closed-mindedness, characterized the dogmatic individual as driven by a strong need to protect themselves from threatening aspects of reality. This defensive reaction is often triggered by ambiguity, leading to the formation of rigid belief systems that are resistant to change (see Erlich, 1978, for a review). In this sense, dogmatism shares several core characteristics such as discomfort with ambiguity and a closed cognitive style—with the need for closure. Rokeach also emphasized that dogmatic individuals are motivated by a desire for a stable cognitive framework to help them make sense of the world. Collective narcissism and in-group gratification are both forms of positive dogmas individuals may hold about the value and status of their shared social individuality. Collective narcissism refers to the belief that one's in-group is extraordinary and deserves special recognition and treatment, yet is not suitably appreciated by other people (Golec de Zavala, 2018; Golec de Zavala et al., 2019a). In contrast, in-group satisfaction reflects a sense of pride in one's group and in being a member of it (Leach et al., 2008). Collective narcissism is specifically linked to indicators of low psychological well-being including high negative emotionality, low life

gratification (Diener et al., 1985), diminished social connectedness, and a reduced capacity to experience self-transcendent emotions that foster a sense of connection to others or something greater than oneself. These emotions include gratitude (recognizing and feeling thankful for positive experiences or others' kindness; Fredrickson, 2013) and compassion (empathizing with others' suffering and wishing to alleviate it; Gilbert, 2010). As a result, identifying with a group does not necessarily enhance psychological well-being when it is rooted in a collective narcissistic outlook.

It is further argued that a disposition toward negative emotionality may incline people to adopt collective narcissism. On the other hand, in-group satisfaction is positively related with indicators of psychological well-being, such as positive emotionality, prosocial behavior, and overall life satisfaction. While in-group satisfaction and collective narcissism can overlap, this overlap may lessen the strength of the link between collective narcissism and negative emotionality. Additionally, it may create secondary relations between collective narcissism and more confident traits such as prosociality, positive emotions, and life satisfaction.

# **Conceptual Model**



#### **Hypothesis**

H1: Sensation seeking, need for closure, collective narcissism higher the level of meaning in life.

## Method

## **Participants**

The population of this study where we collected data from different location and different people i-e form prisoners, drug addicts and college students. Total 354 individual were involved in participation; data was collected from four different place. The data collected from people out of which prisoners were 33.1% (n=117), drug addicts were 13.8% (n=49), students were 24.9% (n=88) and online participants were 28.2% (n=100).Out of all the participants 79.7% (n=282) were males and 20.3% (n=72) were females. Based on education 23.4% (n=83) were bachelors students, 70.6% (n=250) have done FSc, 5.1% (n=18) have done Matric, 0.8% (n=3) were masters students. Of the participants 34.7% (n=123) were married and 65.3% (n=231) were unmarried. From the participants 105 individuals were prisoners and only 2.5% (n=9) participants mentioned that they some type of mental illness. The treatment of participants, their anonymity, the acquisition of their free and informed consent, and the maintenance of complete confidentiality were all conducted following ethical principles. The purposive sampling method was used in the study and collected data.

# **Instruments**

# 1. Sensation Seeking

Sensation seeking was calculated through a 6-items sensation seeking measure settled by (Zuckerman et al., 1964). The scale must be counted on a Likert style format with (1=not agree at all, to 7=very strongly agree). The Cronbach alpha was .58.

#### 2. Need for Closure

The Need for Closure Scale was initially advanced by (Webster and Kruglanski, 1994) and late advanced by (Roets and Van Hiel, 2011). The Need for closure has to score on a Likert style format with (1 = not agree at all, to 7 = very strongly agree). The value of Cronbach was satisfactory.

## 3. Collective Narcissism

Collective narcissism was dignified by means of the three-item Collective Narcissism Scale developed by (Golec de Zavala, Mole, & Ardaq, 2018). The scale has to score on a Likert style format with (1 = not agree at all, to 7 = very strongly agree). The value of Cronbach was satisfactory.

# 4. Meaning in Life

Meaning in life was restrained with the 10 items meaning in life scale projected by (Steger et al., 2006). All items was given to be finished on a 7 options Likert format scale stretching from (1 = Not agree at all, 7 = Very strongly agree). The Cronbach alpha value was satisfied.

#### Procedure

In initial stage was taking permission from the authorities of the concern organization\institution. Purposive sampling technique was used to approach students, prisoners and drug addicts in the second step. In the third step, individuals were provided with a comprehensive explanation, emphasizing the voluntary role of their participation and clarifying that no academic credit would be granted as an incentive for participating in the research survey. Questionnaires were distributed among participants, with which spending approximately 15 to 20 minutes on completion. Following the conclusion of data collection, all questionnaire responses were concluded, and the data were inputted into data management software, namely SPSS and AMOS, and subsequently subjected to analyzation.

# **Analytic Approach**

SPSS and AMOS were used to conduct statistical studies. Descriptive statistics were computed based on the sample's characteristics. Regression analyses were used to determine whether the sensation seeking, need for closure and collective narcissism significantly predicted meaning in life. For this study, the reliability of scales according to Cronbach's alpha was satisfactory.

# **Ethical approval**

Informed consent was taken from the participants, and explained the participants about the purpose of the current research. No such committee exists in our institute; therefore, all the ethical procedures were taken into examination during the entire process.

**91** | Page

Result

Table 1. Regression Analysis between Sensation Seeking, Need for Closure, Collective Narcissism and Meaning in Life.

Variables	В	95%CI		SE B	β	R <sup>2</sup>	$\Delta R^2$
		LB	UB				
						.218	.218***
Constant	8.55	[3.92	13.19]	2.34			
Sensation Seeking	.300***	[.171	.429]	.065	.293***		
<b>Need for Closure</b>	.352***	[.218	.487]	.068	.332***		
Collective Narcissism	175*	[.011	.339]	.083	.135*		

Note. CI = Confidence Interval

The regression analysis show that sensation seeking, need for closure, and collective narcissism were all significant predictors of the meaning in life , accounting for 21.8% of the total variance ( $R^2$  = .218,  $\Delta R^2$  = .218). The constant value was 8.55, with a 95% confidence interval ranging from 3.92 to 13.19. Among the predictors, need for closure emerged as the strongest positive influence (B = 0.352,  $\beta$  = 0.332, p < .001), show that individuals with a higher desire for certainty and quick decisions tend to score higher on the outcome variable. Sensation seeking also showed a significant positive effect (B = 0.300, B = 0.293, D < .001), suggesting that those who seek novel and intense experiences are also likely to have higher outcome scores. In contrast, collective narcissism demonstrated a small but significant negative relationship with the outcome (B = -0.175, B = 0.135, D < .05), implying that individuals who believe their in-group is superior yet underappreciated tend to score slightly lower on the outcome measure.

Table 2
Evaluation Table of Correlation among Variables of the study model (N=354)

		_	-	-		-	
Variables	Mean	SD	1	2	3	4	5
Sensation Seeking	21.26	5.18	-	-	-	-	-
Need for Closure	22.01	4.98	.026	-	-	-	-
Collective Narcissism	13.66	4.06	011	004	-	-	-
Meaning in Life	25.08	5.29	.301**	.339**	.130	-	-

p<.001 \*. Correlation is significant at level of 0.01 (2-tailed).

The descriptive statistics and Pearson correlation coefficients reveal important relationships among the study variables. The mean score for sensation seeking was 21.26 (SD = 5.18), for need for closure 22.01 (SD = 4.98), collective narcissism 13.66 (SD = 4.06), and meaning in life 25.08 (SD = 5.29). A significant positive correlation was found between sensation seeking and meaning in life (r = .301, p < .01), indicating that individuals who seek novel and intense

<sup>\*\*\*</sup>P<.001.

experiences tend to perceive more meaning in their lives. Similarly, need for closure was also significantly positively correlated with meaning in life (r = .339, p < .01), suggesting that individuals who prefer clear answers and certainty are more likely to report a stronger sense of meaning. Collective narcissism, however, showed a small and non-significant correlation with meaning in life (r = .130, p > .05), indicating no strong relationship.

#### Discussion

The current study aimed to investigate the degree to which the psychological traits of sensation seeking, need for closure, and collective narcissism predict an individual's apparent meaning in life. The regression analysis revealed that sensation seeking and need for closure were both important positive forecasters of meaning in life, while collective narcissism showed a small but significant negative relationship. Collectively, these variables accounted for 21.8% of the variance in meaning in life ( $R^2 = .218$ ), indicating a moderate explanatory power.

**H 1** higher levels of sensation seeking, need for closure, and collective narcissism would be positively associated with meaning in life was partially supported. Specifically:

The finding that sensation seeking positively predicted meaning in life aligns with the idea that individuals high in this trait actively pursue novel, intense, and challenging experiences that contribute to their sense of purpose. Sensation seekers may find meaning through exploration, risk-taking, and immersion in unfamiliar environments that stimulate growth and self-discovery. This supports earlier research suggesting that the pursuit of exciting life experiences can contribute to a more meaningful life by broadening personal narratives and identity (Zuckerman, 1994; Steger et al., 2008). The result is also compatible with Self-Determination Theory (Deci & Ryan, 2000), which emphasizes the importance of autonomy and intrinsic motivation—both of which are often found in high sensation seekers. Through self-directed exploration, these individuals may satisfy basic psychological needs, thereby reinforcing their sense of meaning.

The positive association between need for closure and meaning in life was also significant, suggesting that individuals who prefer certainty, structure, and decisive answers are more likely to report a stronger sense of purpose. While some theories suggest that rigid thinking might hinder deep existential exploration, this study's findings imply that structure-seeking individuals may derive meaning through clear goals, stable belief systems, and defined worldviews. This can be interpreted through the lens of the Meaning Maintenance Model (Heine, Proulx, & Vohs, 2006), which postulates that when individuals encounter ambiguity or threat, they seek to restore meaning through coherent cognitive frameworks. High need for closure may thus act as a protective mechanism, helping individuals construct a stable sense of meaning in a complex world—even if that meaning is more surface-level or externally derived.

Contrary to the original hypothesis, collective narcissism was established to have a small but significant negative relationship with meaning in life. This suggests that individuals who believe their in-group is special but underappreciated may not derive stable or authentic meaning from this belief. While group identity can be a strong source of meaning (Sani et al., 2008), the defensiveness and entitlement that characterize collective narcissism may undermine its psychological benefits.

This finding reflects prior research suggesting that identity-based meaning is most beneficial when it is secure and prosocial, rather than rooted in perceived victimhood or superiority. From a Terror Management Theory (Greenberg, Pyszczynski, & Solomon, 1997) perspective, collective narcissism may represent a fragile buffer against existential anxiety—one that ultimately fails to provide lasting meaning, as it depends on external validation and constant reaffirmation. While collective narcissism was hypothesized to positively predict meaning in life, its negative association was unexpected. One possible explanation lies in cultural or contextual dynamics. If the sample was drawn from a population with heightened sensitivity to group-based marginalization or intergroup tensions, collective narcissism may manifest more defensively, decreasing overall well-being and meaning. Additionally, personality dynamics such as high neuroticism or low agreeableness, often associated with collective narcissism, may have suppressed any potential positive effects on meaning.

These findings have important implications for psychological interventions, education, and community programs. Understanding that sensation seeking and need for closure can positively contribute to meaning in life suggests that encouraging exploratory behaviors and offering structured environments may help individuals strengthen their sense of purpose. For instance, educators and counselors can design experiences that balance novelty and clarity to support different personality types.

The negative role of collective narcissism highlights the need for promoting inclusive and secure group identities that foster connection and pride without entitlement or hostility. Social interventions can focus on building authentic in-group pride based on shared values, accomplishments, and contributions, rather than perceived superiority or external validation.

# **Limitations and Future Directions**

Several boundaries must be recognized. First, the use of self-report procedures introduces potential preferences, such as social attractiveness and inaccurate self-perception. Second, the cross-sectional design bounds fundamental clarifications; future longitudinal studies are desirable to examine how these traits influence meaning over time. Additionally, examining potential mediating variables such as self-esteem, emotional regulation, or social support could offer a more nuanced understanding of the pathways linking these traits to meaning in life. Future research might also explore cultural variations in how group identity and sensation seeking influence meaning-making, or investigate whether interventions targeting need for closure can strengthen individuals' perceived life purpose in uncertain times.

# Reference

Baumeister, R. F. (1991). *Meanings of life*. Guilford Press.

Cella, D. F. (1995). Measuring quality of life in palliative care. *Seminars in Oncology*, 22(2 Suppl 3), 73–81.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104\_01

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901\_13 Epstein, S. (1985). The implications of cognitive-experiential self-theory for research in social psychology and personality. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 19, pp. 99–121). Academic Press.

Erlich, H. J. (1978). *The social psychology of prejudice*. Wiley.

Fiori, M., & Antonakis, J. (2012). The ability model of emotional intelligence: Searching for valid measures. *Personality and Individual Differences*, *52*(3), 318–322. https://doi.org/10.1016/j.paid.2011.09.040

Fredrickson, B. L. (2013). Love 2.0: Finding happiness and health in moments of connection. Hudson Street Press.

Gallagher, M. W., & Lopez, S. J. (2009). Positive expectancies and mental health: Identifying the unique contributions of hope and optimism. *The Journal of Positive Psychology, 4*(6), 548–556. https://doi.org/10.1080/17439760903157166

Gilbert, P. (2010). *The compassionate mind: A new approach to life's challenges*. Constable & Robinson.

Giné, X., Karlan, D., & Zinman, J. (2013). Put your money where your butt is: A commitment contract for smoking cessation. *American Economic Journal: Applied Economics*, *2*(4), 213–235. https://doi.org/10.1257/app.2.4.213

Golec de Zavala, A. (2018). Collective narcissism and in-group satisfaction are associated with different emotional profiles and psychological well-being. *Frontiers in Psychology, 9*, 203. https://doi.org/10.3389/fpsyg.2018.00203

Golec de Zavala, A., Dyduch-Hazar, K., & Lantos, D. (2019a). Collective narcissism predicts retaliation for the ingroup's image: Evidence from Poland and the United States. *Journal of Cross-Cultural Psychology*, *50*(5), 525–543. https://doi.org/10.1177/0022022119839763

Golec de Zavala, A., Mole, R., & Ardaq, M. (2018). *Three-item Collective Narcissism Scale*. Retrieved from https://collectivenarcissism.com/blog/3item\_cns

Greenberg, J., Pyszczynski, T., & Solomon, S. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 29, pp. 61–139). Academic Press.

Heine, S. J., Proulx, T., & Vohs, K. D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review, 10*(2), 88–110. https://doi.org/10.1207/s15327957pspr1002 1

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist*, *55*(11), 1217–1230. https://doi.org/10.1037/0003-066X.55.11.1217

Janoff-Bulman, R. (1992). Shattered assumptions: Towards a new psychology of trauma. Free Press.

Jenaabadi, H., & Nastiezaie, N. (2011). Relationship between personality traits and tendency to addiction among students. *Procedia - Social and Behavioral Sciences, 30*, 937–941.

Klinger, E. (1998). The search for meaning in evolutionary perspective and its clinical implications. In P. T. P. Wong & P. S. Fry (Eds.), *The human quest for meaning: A handbook of psychological research and clinical applications* (pp. 27–50). Lawrence Erlbaum Associates.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing". *Psychological Review*, 103(2), 263–283. https://doi.org/10.1037/0033-295X.103.2.263

Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology*, 65(5), 861–876. https://doi.org/10.1037/0022-3514.65.5.861

Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L., Pennekamp, S. F., Doosje, B., Ouwerkerk, J. W., & Spears, R. (2008). Group-level self-definition and self-investment: A hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology*, *95*(1), 144–165. https://doi.org/10.1037/0022-3514.95.1.144

Lu, L. (2008). Sex behavior in emerging adulthood: The significance of sensation seeking, peer influence, and social norms. *Journal of Youth Studies*, 11(5), 497–514.

Maddi, S. R. (1970). The search for meaning. In M. R. Stein, J. J. Vidich, & D. M. White (Eds.), *Identity and anxiety* (pp. 137–142). Free Press.

Mariani, F., Perez-Barahona, A., & Raffin, N. (2010). Life expectancy and education: A dynamic approach. *Economics Letters*, 109(2), 77–79.

Maslowsky, J., Buvinger, E., Keating, D., Steinberg, L., & Cauffman, E. (2011). Cost-benefit analysis of adolescent sexual behavior: The role of emotion regulation and executive function. *Journal of Youth and Adolescence*, 40(9), 1216–1227.

McMillan, S. C., & Weitzner, M. (1998). Quality of life in cancer patients. *Seminars in Oncology Nursing*, *14*(4), 246–253. https://doi.org/10.1016/S0749-2081(98)80035-4

Neuberg, S. L., Judice, T. N., & West, S. G. (1997). What the need for closure scale measures and what it does not: Toward differentiating among related epistemic motives. *Journal of Personality and Social Psychology*, 72(6), 1396–1412. https://doi.org/10.1037/0022-3514.72.6.1396

Ortin, A., Lake, A. M., Kleinman, M., & Gould, M. S. (2012). Sensation seeking as risk factor for suicidal ideation and suicide attempts in adolescence. *Journal of Adolescence*, *35*(1), 83–91.

Reker, G. T. (2000). Theoretical perspectives, dimensions, and measurement of existential meaning. In G. T. Reker & K. Chamberlain (Eds.), *Exploring existential meaning: Optimizing human development across the life span* (pp. 39–55). Sage Publications.

Roets, A., & Van Hiel, A. (2011). Item selection and validation of a brief, 15-item version of the Need for Closure Scale. *Personality and Individual Differences*, 50(1), 90–94. https://doi.org/10.1016/j.paid.2010.09.004

Rokeach, M. (1960). The open and closed mind: Investigations into the nature of belief systems and personality systems. Basic Books.

Ryff, C. D., & Singer, B. H. (1998). The contours of positive human health. *Psychological Inquiry*, *9*(1), 1–28.

Sanchez-Alvarez, N., Extremera, N., & Fernandez-Berrocal, P. (2013). The role of emotional intelligence and self-esteem in adolescent depression: A longitudinal study. *Personality and Individual Differences*, *52*(1), 10–14.

Sands, R. G., Goldberg-Glen, R. S., & Shin, H. S. (2009). The voices of young people with disabilities. *Journal of Social Work in Disability & Rehabilitation*, 8(3–4), 184–199.

Sani, F., Herrera, M., Bowe, M., & Liu, J. H. (2008). Perceived collective continuity: Seeing groups as entities that move through time. *European Journal of Social Psychology*, *38*(2), 365–374.

Stacy, A. W., Newcomb, M. D., & Bentler, P. M. (1993). Interactive and higher-order effects of social influences, personal dispositions, and contextual factors on adolescent drug use. *Addictive Behaviors*, *18*(3), 253–264.

Steger, M. F. (in press). Meaning in life. In S. Lopez (Ed.), *The encyclopedia of positive psychology*. Blackwell Publishing.

Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L. A., & Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review*, *9*(3), 200–207. https://doi.org/10.1177/1754073916684557

Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of Personality and Social Psychology*, 67(6), 1049–1062. https://doi.org/10.1037/0022-3514.67.6.1049

Zuckerman, M. (1983). The psychobiology of personality. Cambridge University Press.

Zuckerman, M. (1984). *Sensation seeking: A comparative approach to a human trait*. Behavioral and Brain Sciences, 7(3), 413–471.

Zuckerman, M. (1990). The psychophysiology of sensation seeking. *Journal of Personality*, 58(1), 313–345.

Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge University Press.

Zuckerman, M. (1996). Item revisions in the Sensation Seeking Scale, Form V (SSS-V). Unpublished manuscript.

Zuckerman, M., Ball, S., & Black, J. (1990). Influences of sensation seeking, gender, risk appraisal, and situational motivation on smoking. *Addictive Behaviors*, *15*(3), 209–220.

Zuckerman, M., Buchsbaum, M. S., & Murphy, D. L. (1980). Sensation seeking and its biological correlates. *Psychological Bulletin*, 88(1), 187–214.

Zuckerman, M., Eysenck, S. B. G., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross-cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology*, 46(1), 139–149.