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Autonomy Support Enhancing High School Students' Meaning in Life through Subjective Authenticity: The Moderating Role of Self-Compassion

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Abstract

Positive social interactions are essential for adolescents to develop self-identity and a meaning in life. However, not all types of social support are equally effective. This study examines how autonomy support from others influences high school students' sense of meaning in life and explores the mechanisms behind this relationship. Using questionnaires (Study 1 and 2) and an experiment (Study 3), the research investigates the impact of autonomy support on adolescents' life meaning, the mediating role of subjective authenticity, and the moderating role of self-compassion. Results show: (1) Autonomy support significantly enhances students' meaning in life, even after controlling for general social support. (2) Subjective authenticity mediates this effect, meaning autonomy support increases authenticity, which in turn strengthens life meaning. (3) Self-compassion moderates the relationship between autonomy support and authenticity; the effect is stronger for students with low self-compassion. These findings highlight the importance of autonomy-supportive environments in schools and families and provide insights for adolescent mental health interventions.

Keywords

Autonomy Support, Meaning in Life, Subjective Authenticity, Self-Compassion

1. Introduction

In the era of globalization and information technology, adolescents face increasingly complex challenges, one of the most significant being the pursuit and suste-

nance of meaning in life. High school students, who are at a critical developmental stage marked by the formation of self-identity, exhibit heightened self-awareness and actively seek to understand the purpose and value of their existence. Meaning in life is a subjective psychological construct, emerging from an individual's perception of their purpose and the significance of their experiences (Steger et al., 2006).

Possessing a sense of meaning in life has been shown to enhance personal health (Ryff, 1989; Wong, 1989), improve an individual's overall well-being (Krok, 2018; Steger & Kashdan, 2012), and mitigate the adverse effects of stressful life events (Park, 2010; Van et al., 2017). Conversely, the absence of a sense of meaning in life has been associated with various maladaptive behaviors, including substance abuse (Mohammad & Mashhadi, 2018), internet addiction (Chen & Li, 2019), and an increased incidence of depression among individuals (Hedayati & Khazaei, 2014). These factors can culminate in self-destructive actions or behaviors that pose a threat to societal well-being (Van et al., 2019). According to Frankl (1963), young individuals frequently encounter the challenge of "existential vacuum," which denotes a profound lack of meaning in life. This void can lead to depression, anxiety, and even self-destructive behaviors. The lack of purpose may contribute to feelings of despair, which is regarded as a significant risk factor for suicidal ideation and behaviors. Consequently, fostering positive life goals and future-oriented beliefs among adolescents may mitigate hopelessness, thereby reducing suicide risks (Dogra et al., 2011).

It is essential to provide effective education regarding the meaning of life for high school students. This study aims to explore the impact of autonomy support on high school students' perception of life's meaning, thereby offering a scientific basis for educational practices and mental health interventions. By conducting this research, we seek to deepen the understanding of how autonomy support contributes to the development of a sense of meaning in life among high school students and how this, in turn, can help them navigate life's challenges more effectively.

1.1. Autonomy Support and Meaning in Life

Self-determined behavior is voluntary action driven by intrinsic interest or perceived task value, with motivation stemming from internalized identification (Black & Daisy, 2000). Self-determination support involves respecting individual choices, recognizing emotions, and showing empathy toward personal perspectives (Deci & Ryan, 2000; Reeve, 2009). In contrast to controlling environments, autonomy support prioritizes individual agency and empathetic understanding, fostering an atmosphere where personal choices are respected (Koestner et al., 2012).

Most research on factors influencing life meaning has focused on the intrapersonal level. For instance, demographic factors like gender (Du, 2019) and family socioeconomic status (Wang, Qian, & Ye, 2018) affect one's sense of meaning.

Internal traits such as emotional well-being (Schulenberg et al., 2016) and self-esteem (Lei & He, 2019) also play key roles. Recent studies have started to examine how interpersonal relationships influence life meaning. Research shows parental involvement predicts adolescents' sense of meaning (Zhu et al., 2021), and positive relationships provide emotional support and promote personal growth during meaning-making (Feeney & Collis, 2015).

In today's education system, both schools and families recognize the importance of promoting students' overall development. However, current practices often focus too much on control rather than supporting students' autonomy and decision-making (Ryan & Deci, 2020). Research shows that social support enhances individuals' meaning in life (Aliche et al., 2019). In particular, autonomy support has a stronger positive impact on high school students' psychological growth than directive support (Soenens & Vansteenkiste , 2005). According to Self-Determination Theory (Deci & Ryan, 2000), people have three basic psychological needs—autonomy, competence, and relatedness. Meeting these needs builds psychological strength, improves academic performance, and enhances mental adaptability (Leow, Leow & Ean, 2023). Studies also show that these needs can each contribute to a person's sense of meaning in life (Martela, Ryan, & Steger, 2018). Support that respects autonomy from parents (Vasquez et al., 2016), partners (Carbonneau et al., 2019), and friends (Deci et al., 2006) effectively satisfies these psychological needs. When middle school students feel supported in making their own choices by teachers, they are more likely to seek psychological help (Wang & Huang, 2022). Adolescents also experience more positive emotions and greater happiness when their parents encourage autonomy (Van Petegem et al., 2023). Based on this evidence, this study proposes the following hypothesis: H1—autonomy support will positively predict high school students' meaning in life, even after controlling general social support.

1.2. Subjective Authenticity

Subjective authenticity refers to an individual's internal sense of being true to themselves, reflecting the alignment between their "current self" and "true self" in both thought and behavior (Wood et al., 2008; Fleeson & Wilt, 2010). It also reflects how well one's actions match their core values and authentic identity (Kernis & Goldman, 2006; Schlegel et al., 2009). Studies show that living in line with one's true self enhances life meaning and helps integrate experiences into a coherent narrative, leading to greater purpose (Schlegel et al., 2011). Research also indicates that high school students are more likely to meet their basic psychological needs in autonomy-supportive environments (Peng et al., 2021). When these needs are met, adolescents are more likely to act in accordance with their intrinsic values, which reinforces their sense of authenticity (Deci & Ryan, 2000; Goldner & Berenshtein-Dagan, 2016).

This study posits that subjective authenticity serves as a mediating variable in the relationship between autonomy support and life meaning (H2), for two fur-

ther reasons. Firstly, subjective authenticity enables individuals to internalize external support, fostering a sense of ownership and meaning in their behaviors (Ryan & Deci, 2017). This internalization is particularly vital during adolescence, as it contributes to the development of a stable and coherent sense of self (Waterman, 1993). Secondly, subjective authenticity is a dynamic psychological construct influenced by environmental factors, making it a viable target for intervention. Research has demonstrated that autonomy-supportive environments—often provided by parents and teachers—can significantly enhance adolescents' subjective authenticity (Goldner & Berenshtein-Dagan, 2016). Educational practices that encourage autonomy, such as allowing students to make decisions aligned with their interests and values, may therefore foster greater subjective authenticity and, in turn, a stronger meaning in life (Reeve, 2009).

1.3. Self-Compassion

Self-compassion involves accepting and being aware of one's failures and shortcomings during difficult times, while maintaining a kind, understanding, and non-judgmental attitude. It includes three components: self-kindness, common humanity, and mindfulness (Neff, 2003, 2011). Studies show that self-compassion boosts authenticity by reducing the fear of negative emotions (Meleshko & Alden, 1993). It lowers the fear of being judged negatively, which in turn reduces the tendency to hide one's true self (Mosewich et al., 2011). Research also found that optimistic cancer patients are more likely to share personal health information, indicating a link between optimism and authenticity (Henderson et al., 2002). People with higher self-compassion tend to be more optimistic (Neff & Vonk, 2009). Moreover, self-compassion helps adolescents manage emotions, build resilience, and explore their identity positively during tough times (Bluth & Neff, 2018). In summary, self-compassion supports authenticity by easing emotional fear and promoting optimism.

Self-compassion may moderate the relationship between autonomy support and subjective authenticity. Research shows that higher self-compassion is linked to lower anxiety, depression, and suicidal behaviors, as well as greater well-being (Booker & Dunsmore, 2019). A recent meta-analysis found that adolescents with higher self-compassion experience less psychological distress—including depression, anxiety, and suicidal thoughts—and enjoy better well-being (Neuenschwander & Gunten, 2025). People with greater self-compassion tend to view themselves and their surroundings more positively and empathetically, react less to external events, and maintain more stable self-esteem across situations. In contrast, those with lower self-compassion are more affected by external evaluations (Leary et al., 2007). Self-compassion protects against negative external influences, helping individuals express their true selves and understand life's meaning more deeply (Yu & Chang, 2020). Therefore, Hypothesis 3 proposes that self-compassion moderates the indirect effect of autonomy support on life meaning through subjective authenticity. Specifically, students with lower self-compassion benefit more: au-

tonomy support strongly enhances their subjective authenticity, which increases their meaning in life. For students with higher self-compassion, autonomy support has a weaker effect on authenticity, thus reducing its overall indirect impact on life meaning.

1.4. Current Research

The present study employed a moderated mediation model to investigate potential mechanisms underlying the relationship between autonomy support and meaning in life. Specifically, we hypothesize (see Figure 1):

H1: Autonomy support positively predicts high school students' sense of meaning in life, even after controlling for the general effects of social support.

H2: Subjective authenticity mediates the effect of autonomy support on meaning in life. Perceived autonomy support positively predicts higher subjective authenticity, which in turn enhances meaning in life among high school students.

H3: Self-compassion moderates the indirect effect of autonomy support on meaning in life through subjective authenticity. Specifically, the mediating effect of subjective authenticity is stronger for students with low self-compassion than for those with high self-compassion.

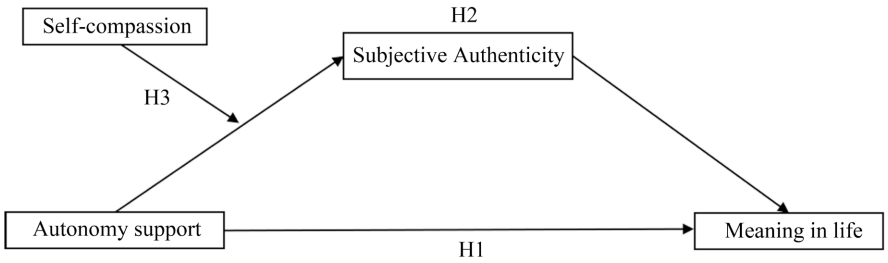

Figure 1. Hypothesized model.

2. Study 1

2.1. Sample and Procedure

A priori power analysis was conducted using G*Power 3.1. For the partial correlation analysis (two-tailed) examining the relationship between autonomy support and meaning in life, a sample of 81 participants was required to detect an effect size of $f^2 = 0.15$ (Martela, Ryan, & Steger, 2018), with an alpha level of 0.05 and 80% power. A total of 145 high school freshmen and sophomores from a public school in Dongguan, China were recruited. Eleven questionnaires were deemed invalid due to being blank, incomplete, or failing the attention check, resulting in their exclusion. The final valid sample consisted of 134 participants (72 males, 62 females; 49 freshmen, 85 sophomores; Mage = 15.7, SD age = ±0.81). Trained psychology graduate students administered the paper-based questionnaires during mental health education classes, adhering to standardized procedures to ensure consistency in data collection. The research protocol has been reviewed and approved by the Ethics Committee of the university to which the authors belongs.

2.2. Measures

2.2.1. Autonomy Support

This study utilized the 10-item Health Care Climate Questionnaire (HCCQ; Williams et al., 1996), which was initially adapted by Chen (2010) to measure autonomy support in romantic relationships. Building on the ecological systems theory of adolescent development (Legault et al., 2017), we extended the relational focus from romantic partners to include significant others (e.g., parents, teachers, etc.), thereby reflecting the primary support networks of youths. Responses were recorded on a 7-point Likert scale anchored at 1 (completely disagree) to 7 (completely agree). The Cronbach's α of the total scale was 0.91.

2.2.2. Meaning in Life

The Meaning in Life Questionnaire-presence (Steger et al., 2006) was utilized, comprising five questions (with question 5 reverse scored). Participants rated each item on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The Cronbach's α of the scale was 0.88.

2.2.3. Social Support

The 12-item Perceived Social Support Scale (PSSS; Jiang, 1999; adapted from Zimet et al., 1988) was used to assess perceived social support from three distinct sources: family (4 items, α = 0.85), friend (4 items, α = 0.92), and other individuals (4 items, α = 0.89). The seven-point Likert scale was used for calculate the scores (1 = strongly disagree to 7 = strongly agree). The Cronbach's α of the total scale was 0.88.

2.3. Results

2.3.1. Common Method Bias

To address potential systematic errors inherent in self-reported student data, common method bias was evaluated using Harman's single-factor test. The unrotated exploratory factor analysis extracted nine factors with eigenvalues greater than 1. The first factor explained for 35.072% of the total variance, which is below the commonly accepted threshold of 40% (Zhou & Long, 2004).

2.3.2. Descriptive Statistics

Table 1. Means, standard deviations, and related results for autonomy support, meaning in life, and social support.

Variance	M ± SD	1	2
1 Autonomy Support	52.08 ± 10.69	—	
2 Meaning in Life	20.97 ± 6.73	0.50**	—
3 Social Support	58.87 ± 13.69	0.69**	0.52**

Note: *indicates $p < 0.05$, **indicates $p < 0.01$, and ***indicates $p < 0.001$.

As illustrated in Table 1, high school students reported substantial levels of au-

tonomy support (M = 52.08, SD = 10.69) and social support (M = 58.87, SD = 13.69), with moderate meaning in life scores (M = 20.97, SD = 6.73). A Pearson correlation analysis revealed a significant positive correlation among autonomy support, meaning in life, and social support ($p < 0.01$).

2.3.3. Demographic Differences

The independent t-test revealed that females (M = 54.82 ± 9.38) reported significantly higher levels of perceived autonomy support compared to males (M = 49.72 ± 11.23, t [132] = −2.83, $p = 0.005$, d = 0.49). Females also exhibited a marginally higher level of social support (M = 61.37 ± 12.20) relative to males (M = 56.72 ± 14.60), t (132) = −1.98, $p = 0.050$, d = 0.34. No significant gender differences were observed in the perception of meaning in life (males: M = 20.29 ± 7.22; females: M = 21.76 ± 6.07), t (132) = −1.26, $p = 0.210$.

The results of the one-way ANOVA test showed that there was a significant difference in the perceived autonomy support of subjects in different family economic statuses (F [3, 130] = 4.27, $p = 0.007$, $\eta^2 = 0.09$), with post-hoc tests showing higher support in affluent families ($p < 0.05$).

Detailed data are shown in Table 2.

Table 2. Analysis of differences in household economic status across.

Variables	Economic Level	M ± SD	F	p	LSD	Average Difference (I-J)
Autonomy Support	Very Bad	39.50 ± 13.44	4.267**	0.007	Very Bad < Excellent	−23.50*
	Normal	50.67 ± 11.17			Normal < Excellent	−12.33*
	Comparatively Good	53.18 ± 9.12			Comparatively Good < Excellent	−9.820*
	Excellent	63.00 ± 7.53				
Meaning in Life	Very Bad	15.50 ± 4.95	1.437	0.235		
	Normal	20.84 ± 7.48				
	Comparatively Good	20.78 ± 5.42				
	Excellent	25.29 ± 6.07				
Social Support	Very Bad	56.00 ± 25.46	1.326	0.269		
	Normal	56.95 ± 13.38				
	Comparatively Good	61.16 ± 13.23				
	Excellent	64.00 ± 16.97				

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

2.3.4. Partial Correlation Analysis between Autonomy Support and Meaning in Life

After controlling for the demographic variables including gender, age, family structure, only child status, and socioeconomic status, the partial correlation anal-

ysis revealed a significant positive correlation between autonomy support and meaning in life (r = 0.47, $p < 0.01$). Furthermore, when social support was added as an additional control variable, the partial correlation analysis continued to demonstrate a significant positive correlation between autonomy support and meaning in life (r = 0.23, $p < 0.01$).

3. Study 2

3.1. Sample and Procedure

A priori power analysis was conducted using G*Power 3.1 (Faul et al., 2007) for the planned mediation analysis. Assuming an effect size of $f^2 = 0.06$ (a relatively small effect, referenced from a similar mediation study by Luo & He, 2020), an alpha level of 0.05, and a desired power of 80%, the analysis indicated a minimum required sample size of 164 participants. We recruited 244 high school students (124 males, 120 females; 10th grade: n = 171, 11th grade: n = 33, 12th grade: n = 40; Mage = 15.5, SD = 0.91) from Dongguan, China, through convenience sampling after excluding 22 invalid questionnaires (due to being blank, incomplete, or failing attention checks). Data were collected during psychology classes under researcher supervision after obtaining informed consent from school administrators, teachers, and participants. Participants received small incentives (e.g., stationery or candies worth ¥1). The study was approved by the Ethics Committee of the authors' university.

3.2. Materials

3.2.1. Autonomy Support

Autonomy support was evaluated using the adapted Health Care Climate Questionnaire (HCCQ; Williams et al., 1996), as detailed in Study 1. In Study 2, the Cronbach's α for HCCQ was 0.95.

3.2.2. Meaning in Life

The Presence of Meaning subscale (Steger et al., 2006) was utilized, consistent with Study 1. The Cronbach's α for the scale was 0.87.

3.2.3. Subjective Authenticity

Subjective authenticity was assessed using a 4-item scale adapted from Kraus et al. (2011). The items were as follows: "In general, I can express my true self when interacting with others"; "I feel false and unnatural in my interactions with others" (reverse-scored); "I get along well with others by changing myself" (reverse-scored); and "When dealing with others, my behavior aligns with my genuine inner feelings and thoughts." Participants rated their agreement on a 7-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). The Cronbach's α for the scale was 0.78.

3.2.4. Emotional States

Participants reported their mood using a visual scale (1 = unhappy, 5 = happy;

Self-Assessment Manikin; Bradley & Lang, 1994).

3.3. Results

3.3.1. Common Method Bias Assessment

Given the reliance on self-reported data, potential common method bias was assessed using Harman's single-factor test (Podsakoff et al., 2003). Exploratory factor analysis yielded six factors with eigenvalues greater than 1. The first factor explained 35.71% of the variance, which is below the 40% threshold suggested by Zhou and Long (2004), indicating that there is no significant common method bias.

3.3.2. Descriptive Statistics and Correlations

As shown in Table 3, after controlling for demographic variables covariates (including gender, age, family structure, and socioeconomic status) and mood, autonomy support, meaning in life, and subjective authenticity were found to have significant pairwise positive correlations (all $p < 0.01$).

Table 3. Descriptive statistics and partial correlations of autonomy support, subjective authenticity, and meaning in life.

Variance	M ± SD	1	2	3
1 Autonomy Support	51.58 ± 13.19	—		
2 Subjective Authenticity	17.72 ± 4.69	0.48**	—	
3 Meaning in Life	21.84 ± 6.56	0.49**	0.47**	—

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

3.3.3. Mediation Analysis

To examine the mediating role of subjective authenticity, a path analysis was conducted using Hayes' PROCESS Macro (Model 4; Hayes, 2012) employing 95% bias-corrected confidence intervals and 5000 bootstrap resamples.

The results of the regression analysis presented in Table 4 indicate that, after controlling for covariates, autonomy support significantly predicted both meaning in life (β = 0.262, t = 8.695, $p < 0.001$) and subjective authenticity (β = 0.178, t = 8.395, $p < 0.001$). When both autonomy support and subjective authenticity were included in the model simultaneously, the direct effect of autonomy support on meaning in life remained significant (β = 0.184, t = 5.629, $p < 0.001$), while subjective authenticity also had a significant effect (β = 0.437, t = 4.966, $p < 0.001$).

Bootstrap analyses confirmed that the indirect effect of autonomy support on meaning in life through subjective authenticity was significant (effect = 0.078, 95% CI [0.043, 0.117]), accounting for 29.77% of the total effect. The direct effect (0.184) accounted for the remaining 70.23%, indicating that autonomy support not only directly predicts meaning in life but also exerts its influence via the mediating role of subjective authenticity (see Table 5).

Table 4. Regression analysis of autonomy support, meaning in life and subjective authenticity.

Regression Equation		Overall Fitting Index			Regression Coefficient Significance	
Result variables	Predictor	R	R^2	F	β	t
Meaning in Life	Gender	0.551	0.304	17.219	−0.378	−0.506
	Age				0.277	0.689
	Family Structure				−1.404	−1.444
	Family Economic Statue				−0.310	−0.564
	Emotions				−0.432	−1.079
	Autonomy Support				0.262	8.695***
Subjective Authenticity	Gender	0.568	0.323	18.852	−0.665	−1.264
	Age				0.373	1.319
	Family Structure				0.239	0.349
	Family Economic Statue				0.104	0.270
	Emotions				−0.605	−2.15*
	Autonomy Support				0.178	8.395***
Meaning in Life	Gender	0.608	0.369	19.755	−0.088	−0.122
	Age				0.114	0.296
	Family Structure				−1.508	−1.626
	Family Economic Statue				−0.355	−0.679
	Emotions				−0.167	−0.434
	Autonomy Support				0.184	5.629***
	Subjective Authenticity				0.437	4.966***

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

Table 5. Breakdown of total, direct and mediating effects.

	Effect value	Boot standard error	Boot CI Lower	Boot CI Upper	Relative Effect Values
Total Effect	0.262	0.030	0.202	0.321	100%
Direct Effect	0.184	0.033	0.120	0.248	70.23%
Mediating Effect	0.078	0.019	0.043	0.117	29.77%

4. Study 3

4.1. Sample and Research Design

A priori power analysis was conducted using G*Power 3.1 (Faul et al., 2007). As-

suming an effect size of $f^2 = 0.08$ (based on findings from Breines & Chen's (2013) recall-priming study), an alpha level of 0.05, and a desired power of 80%, the analysis yielded a minimum required sample size of 141 participants. A total of 178 senior high school students from Foshan, Guangdong Province participated in this online study during their winter vacation. After excluding invalid responses (those who failed the attention test or did not complete the writing task as instructed), 152 valid questionnaires were retained (64 males; Mage = 15.5 years, SD = ±0.58). The study utilized a single-factor, two-level between-subjects design (autonomy support: high vs. low). Participants were randomly assigned to either the high autonomy support condition (n = 79) or the low autonomy support condition (n = 73). The research protocol has been reviewed and approved by the Ethics Committee of the university to which the authors belongs.

4.2. Measures

4.2.1. Manipulation of Perceived Autonomy Support

To manipulate perceived autonomy support, participants engaged in a recall and writing task designed to elicit social support interactions (Lambert et al., 2013; Lee, Ybarra, Gonzalez, & Ellsworth, 2018). Participants were randomly assigned to the high autonomy support condition or the low autonomy support condition.

Task Instructions:

High Autonomy Support Condition: Throughout our lives, we have all encountered instances of autonomy support, where individuals such as parents, teachers, or friends demonstrated trust in our abilities, validated our emotions, respected our viewpoints, and offered choices, thereby fostering an environment free from undue pressure or control. Please close your eyes and take one minute to recall a specific instance in which someone close to you provided robust autonomy support.

Low Autonomy Support Condition: All individuals have encountered directive support at various points in their lives, where authority figures such as parents, teachers, or mentors utilized controlling methods, including punishment, coercion, or commands, to direct our actions and decisions in academic and personal contexts. Please take a moment to reflect on a specific instance where someone close to you demonstrated strong directive support.

To ensure the validity of participants' recall, they were instructed one minute later to record the initials of the person they recalled, the nature of their relationship, the timing of the event, and their emotional response. Participants were then asked to provide a detailed written account of the event. Subsequently, participants rated their perceived autonomy support during the recalled experience on a 7-point Likert scale (1 = not at all, 7 = very much) (van Tilburg et al., 2013). Specifically, they were asked: To what extent did you feel that the person supported your autonomous choices and decisions, stimulated your intrinsic motivational resources, acknowledged your feelings, and understood your perspective during the recalled experience? (e.g., Deci & Ryan 2000; Reeve 2009).

4.2.2. Self-Compassion

The Self-Compassion Scale (SCS; Raes, Pommier, Neff, & Van Gucht, 2011) was utilized to evaluate trait self-compassion. This 12-item scale encompasses six dimensions: three positive components—self-kindness, common humanity, and mindfulness—and three negative components—self-judgment, isolation, and over-identification. The negative components were reverse-scored. Participants rated their responses on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). In Study 3, the Cronbach's α coefficient was 0.76.

4.2.3. Subjective Authenticity

The Subjective Authenticity Scale (Kraus et al., 2011), which was also employed in Study 1, was utilized to evaluate participants' subjective authenticity. In Study 3, the scale exhibited satisfactory internal consistency, as evidenced by a Cronbach's α of 0.75.

4.2.4. Meaning in Life

The Meaning in Life Questionnaire-presence (Steger et al., 2006), consistent with Study 1, was utilized to assess participants' sense of meaning in life. In Study 3, this subscale demonstrated robust internal consistency, as evidenced by a Cronbach's α of 0.89.

4.3. Procedure

After receiving school approval, participants accessed the survey via Wenjuanxing, a popular Chinese online survey platform. The first page included an informed consent form, participation instructions, and a contact email. To reduce demand characteristics, participants who consented were told the study focused on "memory and personality" (adapted from Lee et al., 2018), concealing the actual research goals.

The procedure was as follows: First, participants provided demographic data, emotional states, and self-compassion levels. The measure of emotional states was the same as in Study 2 (Bradley & Lang, 1994). Next, they were randomly assigned to either the high-autonomy or low-autonomy support condition and completed a recall-based writing task to measure autonomy support. Then, a filler task (Piff, Dietze, Feinberg, Stancato, & Keltner, 2015) asked participants to report how often they engaged in daily activities, helping mask the study's true purpose and reduce response bias. Finally, participants completed measures of subjective authenticity and meaning in life. After submitting their responses, they were debriefed on the actual study objectives, none of which they had correctly guessed during post-experiment questioning.

4.4. Results

4.4.1. Manipulation Check

An independent samples t-test confirmed successful manipulation: Participants in the high autonomy support condition reported significantly higher levels of

autonomy support (M = 6.27) compared to those in the low autonomy support condition (M = 4.79), t (150) =7.64, $p < 0.001$).

4.4.2. Moderating Role of Self-Compassion

A moderation analysis was conducted using Model 1 of the SPSS PROCESS macro (Hayes, 2012). The results revealed a significant interaction between perceived autonomy support and self-compassion on subjective authenticity under the experimental manipulation (β = −0.20, $p = 0.013$). Simple slope analysis indicated that for participants with low self-compassion (−1 SD), subjective authenticity significantly differed between high and low autonomy support conditions (β = 2.73, $p < 0.001$). Conversely, no significant difference in subjective authenticity emerged for participants with high self-compassion (+1 SD) across varying levels of autonomy support (β = −0.02, $p = 0.978$). These findings remained robust after controlling for demographic covariates (gender, age, family structure, economic status) and emotional states.

4.4.3. Moderated Mediation Analysis

The moderated mediation model was tested using Hayes' PROCESS macro (Model 7). The results (see Table 6) indicated that autonomy support significantly predicted subjective authenticity (β = 1.35, t = 2.47, $p = 0.014$), which subsequently had a strong positive effect on meaning in life (β = 1.02, t = 10.63, $p < 0.001$). Importantly, the interaction between autonomy support and self-compassion significantly moderated the first-stage path (β = −0.20, t = −2.51, $p = 0.013$), suggesting that the impact of autonomy support on subjective authenticity varied as a function of participants' levels of self-compassion.

Table 6. Moderated mediation test.

Regression Equation		Overall Fitting Index			Regression coefficients Significance	
Result variables	Predicator	R	R^2	F	β	t
Subjective Authenticity	Autonomy Support	0.63	0.39	32.52	1.35	2.47**
	Self-Compassion				0.66	5.23***
	Autonomy Support × Self-Compassion				−0.20	−2.51**
Meaning in life	Autonomy Support	0.69	0.48	69.21	2.19	2.67**
	Subjective Authenticity				1.02	10.63***

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

Conditional process analysis (Table 7) showed that the indirect effect was significant at low self-compassion (−1 SD: ab = 2.79, 95% CI [1.30, 4.31]) but not significant at high self-compassion (+1 SD: ab = −0.02, 95% CI [−1.65, 1.49]). All effects remained robust after controlling for demographic covariates and emotional states. To better understand the nature of this relationship, descriptive statistics for subjective authenticity levels across conditions (see Table 8) were examined. The findings show that among participants with low self-compassion,

subjective authenticity was considerably higher under the high autonomy support condition (M = 16.09, SD = 3.93) than under the low support condition (M = 12.25, SD = 4.23). In contrast, among individuals with high self-compassion, mean authenticity scores were nearly identical between the high (M = 20.00, SD = 3.89) and low (M = 20.00, SD = 3.03) autonomy support conditions. These findings suggest that self-compassion functions as an internal resource that can compensate for the role generally served by external autonomy support. Consequently, for individuals with high levels of self-compassion, additional autonomy support has little effect on further increasing their sense of subjective authenticity.

Table 7. The mediating role of subjective authenticity between autonomy support and meaning in life under different levels of self-compassion.

Implicit variable	Level of self-compassion	Effect	Boot SE	Bootstrap's 95%CI	
				LLCI	ULCI
Subjective authenticity	−1SD (−6.81)	2.79	0.77	1.30	4.31
	M (0.00)	1.39	0.55	0.32	2.47
	+1SD (+6.81)	−0.02	0.79	−1.65	1.49

Table 8. Descriptive statistics of subjective authenticity by self-compassion group and autonomy support condition.

Experimental Condition	Level of Self-Compassion	Subjective Authenticity Mean (M)	Subjective Authenticity Standard Deviation (SD)
High Autonomy Support	Low	16.09	3.93
High Autonomy Support	High	20.00	3.89
Low Autonomy Support	Low	12.25	4.23
Low Autonomy Support	High	20.00	3.03

5. Discussion

The present study investigated a moderated mediation model of meaning in life, elucidating the psychological mechanisms that underlie the relationship between autonomy support and meaning in life. Specifically, subjective authenticity was identified as a mediator, while self-compassion served as a moderator. The key findings and their implications are elaborated upon in the following discussion.

5.1. Autonomy Support and Meaning in Life

The primary objective of this study was to investigate, from a positive psychology perspective, the extent to which autonomy support can effectively enhance high school students' sense of meaning in life, as hypothesized in H1.

The results indicate that autonomy support positively predicts high school students' meaning in life. This finding refines previous research on social support by

specifically highlighting autonomy support as a unique type of support that enhances the perception of meaning in life (Krause & Rainville, 2020). As the level of autonomy support increases, individuals report a more profound sense of meaning in life. Meaning in life serves as the foundation and starting point for future life planning, and autonomy support from parents, teachers, and friends facilitates the development of internalized goals, thereby fostering a sense of fulfillment and purpose (Lekes et al., 2010). In contrast to directive support, which can constrain autonomy (Koestner et al., 2012), autonomy support recognizes and promotes the independence and competence of high school students, aligning with their developmental need for autonomy during adolescence. This alignment contributes to a stronger sense of meaning in life among high school students.

Previous research has extensively examined factors influencing the sense of meaning in life, with a predominant focus on adults. Studies have explored how individual characteristics, such as intrinsic traits and subjective agency, contribute to this sense. For example, reflection on daily events (Czyżowska & Gurba, 2021a) and gratitude (Czyżowska & Gurba, 2021b) have been identified as significant factors. Ecosystem theory underscores the critical role of environmental factors in individual development (Bronfenbrenner & Morris, 2007), particularly noting that younger individuals are more vulnerable to environmental influences on their psychological and behavioral outcomes. Moreover, investigating how environmental factors impact high school students' sense of meaning in life not only advances theoretical understanding but also offers practical guidance for promoting meaning in life education within family and school contexts.

5.2. The Mediating Role of Subjective Authenticity

The second aim of this study was to examine the mediating role of subjective authenticity on the relationship between autonomy support and high school students' sense of meaning in life (H2).

Subjective authenticity mediated the effect of autonomy support on high school students' meaning in life. First, autonomy support positively predicts subjective authenticity, a finding that aligns with previous research (Deci & Ryan, 2013). According to self-determination theory, an authentic self develops through volitional behaviors such as self-actualization (autonomy), internal self-efficacy (competence), and feeling loved (relatedness). Therefore, fulfilling individuals' psychological needs, along with environmental support, fosters the development of a coherent and authentic self (Goldner & Berenshtein-Dagan, 2016). Research on identity disclosure among sexual minorities has shown that autonomy support from family and friends is associated with greater authenticity and well-being (Ryan et al., 2017). Autonomy support encourages individuals to endorse their own behaviors and express their authentic selves (Li et al., 2021; Ryan et al., 2017). Second, subjective authenticity positively predicts meaning in life. As Yang (2015) argued, an authentic perception of one's existence contributes to a sense of meaning in life. Greater authenticity and openness to experience are linked to a stronger

sense of meaning in life (Allan et al., 2015), and individuals are more likely to perceive life as meaningful when they have a clear and authentic understanding of their interactions with their environment (Heine et al., 2006).

5.3. The Moderating Role of Self-Compassion

The third aim of this study was to examine the moderating role of self-compassion in the relationship between autonomy support and high school students' meaning in life, specifically focusing on how autonomy support influences subjective authenticity (H3).

Self-compassion significantly moderated the relationship between autonomy support and subjective authenticity. Study 3 experimentally confirmed this moderating effect by manipulating autonomy support through a reminiscence writing task. Specifically, high school students with higher levels of self-compassion exhibited consistently high subjective authenticity, rendering external autonomy support non-significant in influencing their subjective authenticity. Conversely, for students with lower levels of self-compassion, subjective authenticity was reduced, and external autonomy support had a significant impact on their subjective authenticity. A similar moderating role of self-compassion was observed in a study examining selfie editing behaviors and plastic surgery intentions among female college students (Huang, Shi, & Chen, 2022).

Low autonomy support, characterized by high-control environments, can induce significant stress in individuals. Individuals with high self-compassion tend to employ cognitive restructuring strategies to cope with such stressful situations (Allen & Leary, 2010). Their self-kindness and self-care can effectively mitigate the negative effects of environmental stress, thereby reducing reliance on autonomy-supportive environments and maintaining stable subjective authenticity. This study supports the view that high self-compassion functions as a powerful internal resource, enabling individuals to maintain a sense of authenticity without requiring additional external support. The fact that subjective authenticity scores for participants with high self-compassion ($M = 20.00$) were below the scale maximum (28) and exhibited normal variability effectively rules out a ceiling effect. This result supports the interpretation that, for this group, the non-significant effect of autonomy support is attributable to the sufficiency of internal resources rather than measurement limitations.

By regulating self-perception and enhancing acceptance of personal imperfections, they effectively counteract external negative influences (Yang, 2021; Huang et al., 2022; Zhang et al., 2019). Empirical evidence demonstrates that individuals with high self-compassion exhibit greater adaptability in responding to adverse events, showing lower levels of negative affect and more authentic self-evaluations. These adaptive mechanisms ultimately enhance their sense of meaning in life and life satisfaction (Breines & Chen, 2012; Wang & Jiao, 2022).

In contrast, individuals with low self-compassion tend to cope with stressful situations through avoidance strategies (Meleshko & Alden, 1993). Prolonged ex-

posure to environments lacking autonomy support fosters distrust and self-negation, both externally and internally, ultimately undermining their sense of authenticity. Notably, when individuals with low self-compassion are placed in autonomy-supportive environments, they experience enhanced opportunities for self-determination and receive positive feedback, which facilitate the gradual development of more stable perceptions of subjective authenticity. Thus, in turn, fosters a stronger sense of meaning and value in life.

6. Educational Implications

Parents and teachers, supporting students' autonomy should be a priority in education. Parents need to understand their children's emotions, avoid controlling behaviors, and encourage them to take responsibility and make responsible decisions in their daily lives. Teachers, likewise, should adopt inclusive and autonomy-supportive methods in teaching, especially when counseling students with low life satisfaction. When students feel authentic, they are more likely to find meaning in life. Therefore, schools and families should encourage individuality and self-expression, provided that students abide by the law and respect the public interest. A democratic and open environment should be created to support self-expression, while recognizing the limits of the "Be Myself" concept. Moreover, self-compassion plays a key role in helping students cope with challenges. Parents can teach their children to maintain self-care when they encounter setbacks by setting an example and can help students view their own shortcomings with a more tolerant attitude by emphasizing progress rather than perfection in daily feedback.

For school counselors, the research results underscore the necessity of targeted screening and intervention. Counselors can utilize validated scales to identify individuals with low self-compassion and implement specialized group counseling sessions designed to foster authentic social engagement. For instance, therapeutic techniques such as role-playing can enable students to practice aligning their actions with personal values within a secure environment. Furthermore, acting as vital intermediaries between students and their developmental contexts, counselors can facilitate workshops for parents and educators to distinguish autonomy support from controlling practices. These sessions should provide evidence-based communication strategies, such as empathetic listening, to cultivate autonomy-supportive climates in both home and school settings.

For mental health curriculum designers, these findings emphasize the importance of developing instructional materials that elucidate the psychological link between authentic self-expression and meaning in life. It is imperative that psychological curricula incorporate experiential exercises to cultivate self-compassion, such as guided meditations or thematic journaling that normalize academic and social stressors. By fortifying this internal psychological resource, students may reduce their reliance on external validation, thereby sustaining a more robust sense of subjective authenticity.

In summary, multi-stakeholder collaboration is essential to fostering environ-

ments that empower youth to explore and express their true selves, ultimately establishing a robust foundation for a meaningful life.

7. Limitations and Future Directions

This study examines the relationship between autonomy support and meaning in life among high school students and offers empirical insights into the underlying mechanisms. However, several limitations should be considered. First, the use of self-reported measures for autonomy support may introduce bias. Future research could employ objective methods, such as teacher reports or classroom observations, to compare how subjective and objective assessments affect meaning in life. Second, the generalizability of the findings may be limited by the regional scope and sample size. Although the sample size of this study is sufficient for the main analysis, a larger one would be more conducive to exploring the internal mechanism between autonomy support and the sense of meaning in life. The conclusions could also be extended to a wider range of cultural contexts. Future research could adopt a longitudinal design based on a large-scale, nationally representative sample, which would help advance relevant explorations. Third, although combining surveys (Studies 1 - 2) with an experiment (Study 3) enhanced internal validity, the manipulation check in Study 3 used a single-item measure, which may be less reliable than multi-item scales (Carpenter et al., 2019). Future experiments should adopt validated multi-item measures to strengthen methodological rigor.

8. Conclusions

(1) As an effective form of social support, autonomy support significantly enhances adolescents' meaning in life. Specifically, higher perceived autonomy support is associated with stronger meaning in life among high school students.

(2) Subjective authenticity mediates the relationship between autonomy support and meaning in life. Higher levels of autonomy support predict greater subjective authenticity, which in turn fosters enhanced meaning in life.

(3) Self-compassion moderates the positive association between autonomy support and subjective authenticity. While autonomy support exerts no significant influence on subjective authenticity among students with higher self-compassion levels, it demonstrates a stronger effect for those with lower self-compassion levels.

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Conflicts of Interest

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

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