

**Disentangling How Purpose in Life, Academic Self-Concordance, and Self-Reflection  
Relate to Subjective Well-Being in Students: A Moderated-Mediation Analysis**

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### **Abstract**

University students are at high risk for low well-being and distress, making it crucial to research relevant factors to address this vulnerability. This study proposed a moderated-mediation model. Specifically, it was hypothesized that academic self-concordance would mediate the relationship between purpose in life and subjective well-being such that with increasing purpose in life, there will be greater academic self-concordance and, following this, greater subjective well-being in students. Furthermore, it was hypothesized that higher self-reflection would moderate this mediation pathway such that with increasing self-reflection and purpose in life, there will be greater academic self-concordance and greater subjective well-being in students. A sample of 184 psychology students participated in an online questionnaire assessing purpose in life, subjective well-being, and self-reflection. For academic self-concordance, participants wrote down three academic goals and rated their level of autonomy. Based on bootstrapping, a moderated-mediation analysis and two follow-up simple mediations yielded non-significant results suggesting that domain-specific self-concordance could not predict subjective well-being within the model. However, significant links were found between purpose in life and subjective well-being, as well as self-reflection and subjective well-being. This paper proposes that university measures should include reflective exercises to allow students to identify their purpose in life, as well as formulate aligned academic goals to promote well-being. Future research needs to consider mindfulness as a moderator and academic-related outcomes such as academic satisfaction.

*Keywords:* purpose in life, academic self-concordance, subjective well-being, self-reflection, academia, students

## **Disentangling How Purpose in Life, Academic Self-Concordance, and Self-Reflection Relate to Subjective Well-Being in Students: A Moderated-Mediation Analysis**

University students appear to be at greater risk of psychological distress and lower subjective well-being due to their vulnerable age and academic stressors (Stallman, 2010). In a large cross-country study by the WHO, 31% of students reported having at least one mental disorder in the last year (Auerbach et al., 2018). In another study, 84% of participating students reported a heightened stress level (Stallman, 2010), which has been linked to lower mental health in students (Ribeiro et al., 2017). Conversely, higher well-being in students is linked to adaptive coping strategies (Freire et al., 2016), positive affect, and greater academic performance (Cobo et al., 2020). These concerning numbers and the unambiguous benefits of greater well-being underscore the importance of researching and identifying factors associated with student well-being. Gaining relevant insights could prompt universities to implement more effective measures to promote students' well-being. Past research suggests that purpose in life can play an important role in promoting well-being in students (Hill et al., 2016; Pfund et al., 2020), but despite the link, there is little research examining how purpose in life exerts its positive impact on well-being. With this in mind, this paper hypothesizes that subjective well-being in students can be considered within the theoretical framework of purpose in life by proposing a moderated mediation model. In particular, this study aims to investigate whether academic self-concordance mediates the relationship between purpose in life, defined as a "central, self-organizing life aim" (Kashdan et al., 2023), and students' subjective well-being. With increasing purpose in life, there would be greater academic self-concordance and, consequently, greater student subjective well-being. Furthermore, this study examines whether self-reflection, a construct theoretically and empirically related to greater self-concordance (Smyth et al., 2020; Warren et al., 2018), strengthens this mediation pathway such that with increasing self-reflection and purpose in life, there would be greater academic self-concordance and subsequently, greater subjective well-being in students.

## **Purpose in Life and Well-Being**

*Purpose in life* can be defined as a “central, self-organizing life aim” (Kashdan et al., 2023). Self-organizing refers to an individual's motivation to allocate resources and energy towards a meaningful goal. Purpose in life is a fundamental part of identity, a broad framework for guidance, and serves as a long-term driving force for goals. Research has widely recognized the positive impact of purpose in life on various aspects of health and well-being (Barcaccia et al., 2023; Kashdan et al., 2023; Lewis, 2020). *Well-being* is characterized as experiencing positive emotions and relationships, functioning satisfactorily, actualizing one's potential, and feeling autonomous (Ruggeri et al., 2020). As life circumstances are differently appraised, subjective well-being describes the individual evaluation of one's well-being (Diener et al., 2018). Regarding the relationship between purpose in life and well-being, purpose in life has been linked to better mental health (Barcaccia et al., 2023; Kim et al., 2022), greater physical health (Kim et al., 2020), and lower stress (Sutin et al., 2024).

Despite the evident link, the relationship has not been extensively assessed among students. However, purpose in life is associated with elevated well-being and positive affect in emerging adults (Hill et al., 2016; Pfund et al., 2020). Accordingly, Wang & Wang (2022) found that having a purpose in life is related to greater mental health in students. Purpose in life has also been linked to better academic performance in adolescence (Barcaccia et al., 2023). Therefore, purpose in life is a promising factor in promoting students' well-being. However, little research has investigated how purpose in life positively influences well-being, particularly in students who are at risk for low well-being (Stallman, 2010). Students' well-being has been associated with adaptive coping strategies, potentially helping students to manage academic stress more effectively (Freire et al., 2016). Likewise, greater well-being in students is associated with positive affect and greater academic performance (Cobo et al., 2020). Overall, higher subjective well-being in students is associated with various positive outcomes. However, there is a lack of research investigating how purpose in life affects

students' well-being. Therefore, this paper proposes that purpose in life exerts its positive impact on students' well-being through the pursuit of academic self-concordant goals that mediate the relationship.

### **Purpose in Life and Academic Self-Concordance**

Purpose in life and goal self-concordance are related concepts (Kashdan et al., 2023). *Goal self-concordance* refers to the degree to which one's goals align with one's intrinsic values, interests, and motives (Wan et al., 2021). Derived from self-determination theory, goals are self-concordant if pursued for autonomous reasons such as the importance assigned to the goal as well as the experience or process of achieving it. In contrast, a goal is not self-concordant when it is pursued because of external factors such as rewards or other people's expectations. Kashdan et al. (2023) argue that purpose in life functions as a superordinate guiding force encouraging the pursuit of goals that align with one's life aim, known as purpose in life. Lewis (2020) also posits that purpose in life positively relates to goal selection and pursuit. According to McKnight and Kashdan (2009), purpose in life serves as a cognitive and self-organizing system that motivates the formation of higher-order goals. Aligned with one's purpose in life, lower-order goals are derived from higher-order goals. When a goal is achieved, purpose in life stimulates the formation of new goals. In contrast, individuals with low purpose in life struggle to set new goals. Therefore, purpose in life is suggested to provide a coherent framework allowing individuals to structure their goals and actions.

As purpose in life is associated with intrinsic motivation (Kashdan et al., 2023) and guides goal selection (McKnight and Kashdan, 2009), it is suggested to drive goal-directed behavior in line with one's central life aim. Likewise, people potentially choose non-concordant goals when they do not perceive a "holistic self-feeling" (Kashdan et al., 2023), comparable to purpose in life. Individuals with an omnipresent purpose in life potentially find it easier to set new goals in line with their intrinsic values and interests, known as self-concordance. Despite the link, there is a lack of research examining the relationship between

purpose in life and self-concordance in academia. It is theorized that the link can be applied to academia by focusing on the self-concordance of academic goals. Research suggests that a high purpose in life among students functions as a self-organizing system that gives students a sense of direction. Students are guided to select and pursue self-concordant and, thus, personally meaningful academic goals that align with their core interests. Ultimately, this paper predicts that with increasing purpose in life, students will achieve greater academic self-concordance, representing the first part of the mediation pathway. Students with high purpose in life would select more academic goals aligned with their core values and interests.

### **Academic Self-Concordance and Subjective Well-Being**

Pursuing self-concordant goals has several beneficial effects. An explanatory model by Sheldon & Elliot (1999) illustrates how self-concordance affects well-being. The authors found support for the claim that self-concordance is associated with effort, which encourages goal attainment. Attaining concordant goals satisfies psychological needs such as autonomy, competence, and relatedness. These need-satisfying experiences positively impact an individual's momentary mood, and the aggregation of these positive experiences fosters longitudinal well-being. In contrast, attaining non-concordant goals does not satisfy these needs as they are extrinsically pursued and less personally meaningful. Accordingly, Wan et al. (2021) argued that people with high self-concordance are more motivated for goal pursuit as their goals are meaningful to them and align with their interests and values. They tend to attribute greater importance to goal pursuit as they value self-improvement, which makes them more likely to succeed. The attainment of concordant goals creates an upward spiral positively impacting various areas of an individual's functioning, including well-being.

This paper posits that the relationship between self-concordance and well-being (Sheldon & Elliot, 1999) equally exists when applying self-concordance to the academic context to address prevailing concerns about students' well-being. In academia, it can be argued that students with high self-concordance can more easily set academic goals. They put

more effort into goal pursuit as their autonomous goals are more personally meaningful. When students reach their academic goals representing their core values and interests, they tend to feel more competent, autonomous, and satisfied. These positive experiences are suggested to enhance students' academic satisfaction and their longitudinal well-being (Sheldon & Elliot, 1999). Accordingly, Schippers & Ziegler (2019) indicated that students' well-being is associated with formulating clear goals, which is potentially facilitated by academic self-concordance.

Therefore, this paper will examine whether students with increasing academic self-concordance would experience greater well-being, representing the second part of the mediation. Purpose in life is suggested to partially explain the variability in self-concordance and supplement the model by Sheldon & Elliot (1999). Altogether, it will be investigated whether increasing purpose would predict increasing academic self-concordance and subsequently increasing subjective well-being in students. Thus, academic self-concordance is proposed to mediate the link between purpose in life and well-being in students. To gain a deeper understanding of the hypothesized model, self-reflection as a potential moderator underlying the relationship between purpose in life and academic self-concordance will be examined. The proposed moderated-mediation model is displayed in Figure 1.

### **Self-Reflection**

As previously elaborated, it is expected that with increasing purpose in life, more self-concordant academic goals will be chosen, resulting in greater well-being. This suggested mediation is hypothesized to be stronger for students with higher levels of self-reflection. *Self-reflection* describes the “inspection and evaluation of one’s thoughts, feelings, and behavior” (Grant et al, 2002). Mindfulness, closely linked to self-reflection and self-awareness, is suggested to enhance self-reflection by increasing awareness of one’s inner experiences (Yu, 2017), which promotes behavior concordant with one’s values and interests (Smyth et al., 2020; Warren et al., 2018). Through heightened awareness, mindfulness and,



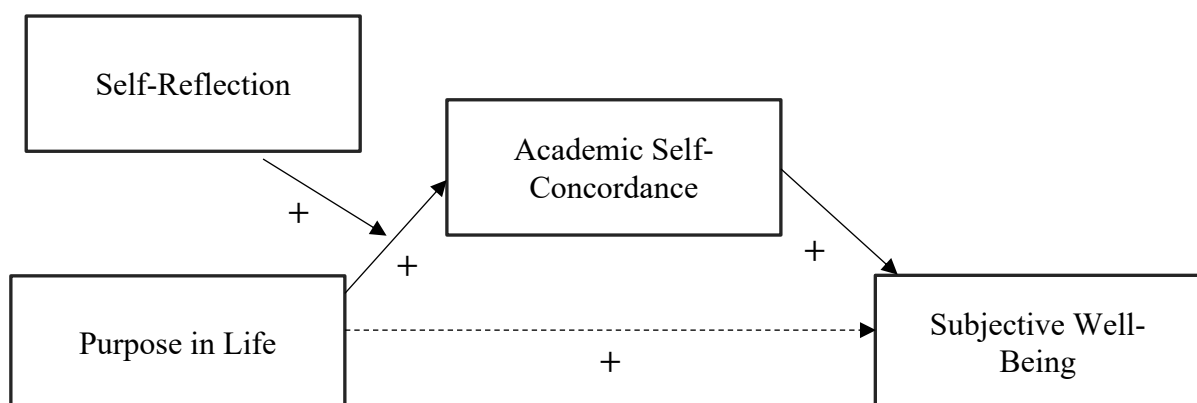
thus, self-reflection enable individuals to align their behavior more closely with their values (Warren et al., 2018), which may enhance academic self-concordance of students.

Additionally, it can be argued that self-reflection functions as a constant evaluation of whether one's goals align with one's intrinsic values and motives (Bundick, 2011). Reflecting on one's purpose in life can provide clarity on how to pursue one's purpose in life through goal setting and suggests to buffer against declines in goal orientation and well-being (Bundick, 2011). When individuals are enticed by non-self-concordant goals, they appear to reflect on their purpose in life (Lewis, 2020). Therefore, self-reflection potentially strengthens the link between purpose in life and academic self-concordance. It is suggested that through increased awareness, self-reflection in students reinforces the self-organizing and guiding function of purpose in life on selecting and pursuing academic concordant goals.

Consequently, it is hypothesized that with increasing self-reflection and purpose in life, academic self-concordance would increase, and subsequently, greater well-being. Thus, this study seeks to investigate whether self-reflection can strengthen the mediation pathway by reinforcing the link between purpose in life and academic self-concordance. Self-reflection can further shed light on individual differences in academic self-concordance.

**Figure 1**

*Proposed Moderated-Mediation Model*



## Methods

### Participants

The sample originally consisted of 201 first-year psychology students from the University of Groningen in North Netherlands. From the original sample, 17 participants were excluded because they failed to complete all required questions, leaving a total of 184 participants for the data analysis. The remaining sample consisted of 129 women (70.1%), 49 men (26.6%), and 6 participants of undescribed sex (3.3%). In addition, 121 participants were of Dutch nationality (65.8%), 17 participants were of German nationality (9.2%), and 46 participants claimed other nationalities (25%). The ages of participants ranged from 18 to 35 years, with a mean age of 19.77 ( $SD = 1.95$ ).

### Measures

#### *Purpose in Life*

Purpose in life was operationalized by using the Purpose in Life Scale (Hill et al., 2016). The scale consists of four items: “There is a direction in my life,” “My plans for the future match with my true interests and values,” “I know which direction I am going to follow in my life,” and “My life is guided by a set of clear commitments.” Participants rated each item on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). The higher the average rating, the higher the purpose in life a participant experiences. According to Hill et al. (2016), the scale has good internal consistency ( $\alpha = 0.84$ ). In the present sample, a Cronbach’s alpha of 0.84 was found.

#### *Academic Self-Concordance*

This paper used Sheldon & Elliot’s (1999) method to operationalize academic self-concordance. Participants wrote down three academic goals they are pursuing. Based on self-determination theory, the level of motivation internalization was assessed. Motivation was categorized as either external, introjected, identity-driven, or intrinsically driven. Participants rated each of their academic goals on four scales, representing the reasons for goal pursuit.

Controlled reasons were related to external and introjected motivation (Wan et al., 2021): “because somebody else wants you to, or because you’ll get something from someone if you do” (external) and “because you would feel ashamed if you did not—you feel that you should try to accomplish this goal” (introjected). Autonomous reasons were related to identified and intrinsic motivation: “because you believe it is an important goal to have” (identified) and “because of the fun and enjoyment which the goal will provide you—the primary reason is simply your interest in the experience itself” (intrinsic). Participants rated their academic goals on a scale from 1 (not at all for this reason) to 7 (completely for this reason).

A metric for academic self-concordance was determined by subtracting the mean of controlled items from the mean of autonomous items for each individual goal. To obtain an overall academic self-concordance score, the average of these self-concordant scores across all goals was calculated for each participant. The higher the value, the more self-concordance is present and the more autonomous the academic goal. Contrastingly, a negative difference reflects that participants pursue a goal for more controlled reasons than autonomous reasons. Derived from self-determination theory, this method can be equated with the relative autonomy index (Howard et al., 2020; Sheldon et al., 2023). Sheldon & Elliot (1999) found an appropriate level of internal consistency for the measurement ( $\alpha = 0.80$ ). In this study, a comparably lower level of internal consistency was detected ( $\alpha = 0.60$ ).

### ***Subjective Well-Being***

To operationalize subjective well-being, the Satisfaction with Life Scale by Diener et al. (1985) was used consisting of five items (e.g., “In most ways, my life is close to my ideal,” “The conditions of my life are excellent”). Items were measured on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A higher average score indicates a higher level of subjective well-being. The scale has appropriate internal consistency ( $\alpha = 0.87$ ) (Diener et al., 1985). In the present data, Cronbach’s alpha was 0.86.

### ***Self-Reflection***

Self-reflection was measured by using the subscale Self-Reflection of Silvia's (2022) short version of the Self-Reflection and Insight Scale (SRIS). The scale has six items (e.g., "I frequently examine my feelings", "I frequently take time to reflect on my thoughts"). Items are rated on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). Higher average scores display a higher level of self-reflection. Silvia (2022) indicated appropriate internal consistency ( $\alpha = 0.87$ ). In this sample, a Cronbach's alpha of 0.91 was calculated.

### **Procedure**

First, the study was approved by the Ethics Committee of the Faculty of Behavioural and Social Sciences at the University of Groningen. The research was part of a thesis project at the University of Groningen. The survey was available to students through a first-year course that requires participation in research. Points that contribute to course credits were awarded to participants and acted as an incentive. Students could access the study through the university portal SONA and were forwarded to the survey platform Qualtrics, which ensured the confidentiality of the data. After agreeing to the informed consent, a self-report questionnaire in English was administered online. Participants answered questions about purpose in life, academic self-concordance, subjective well-being, and self-reflection (See Appendix C for the complete questionnaires).

### **Statistical Analysis**

Descriptive statistics, Pearson's correlation, and assumption checks were performed using SPSS (29). The moderated-mediation model was assessed by using the PROCESS extension (4.3) of SPSS by Hayes (2013). The PROCESS model employs bootstrapping to create multiple samples of the original data and estimates confidence intervals for the moderator and mediator effects. Using Hayes's approach, a moderated-mediation analysis was conducted, considering the combined effects. The moderated mediation index indicated the significance level of the proposed model. For the data analysis, 5000 bootstrap samples have been modeled. The level of confidence for all confidence intervals was set at 95%.

## Results

### Assumption Checks

Linearity was checked by investigating scatterplots of the proposed pathways, and the corresponding variables. Upon visual inspection, all relationships appeared linear. A Durbin-Watson statistic of 1.972, which is close to 2, indicated independence of residuals. Normal Q-Q plots for each variable showed no severe deviations from the reference line, indicating that all variables are approximately normally distributed (See Appendix A). Homoscedasticity was assessed by plotting the standardized residuals against the standardized predicted values. The scatterplot showed no pattern, indicating homoscedasticity across the predicted values (See Appendix B). Likewise, the histogram of residuals and the normal P-P plot showed normality of residuals (See Appendix B). Regarding outliers, a casewise diagnostic ( $> \pm 3 SD$ ) detected no influential observations.

### Descriptive Statistics and Correlations

Descriptive statistics and zero-order correlations were calculated (See Table 1).

**Table 1**

*Pearson Correlations, Means, and Standard Deviations of the Variables*

	1.	2.	3.	4.
1. Purpose in Life	—			
2. Academic Self-Concordance	0.327**	—		
3. Subjective Wellbeing	0.346**	0.192**	—	
4. Self-Reflection	0.278**	0.220**	0.262**	—
Mean	3.495	1.355	4.610	5.532
SD	0.786	1.586	1.221	0.955

Note. \*\* $p < .01$ .

### Moderated-Mediation Analysis

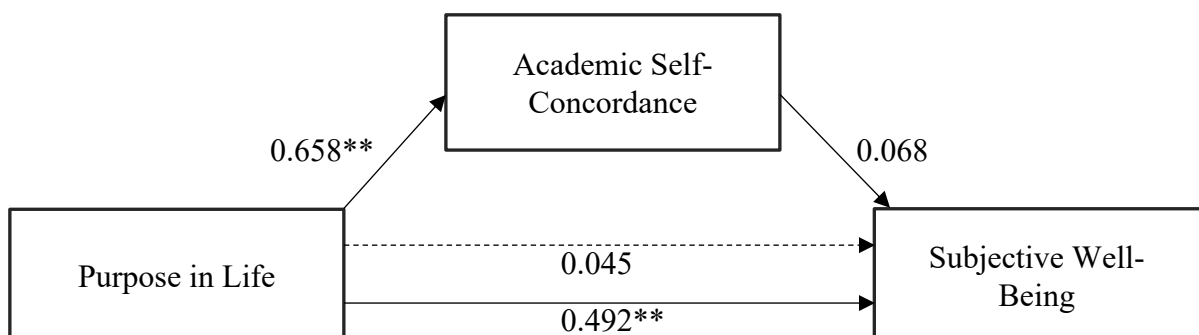
To examine the proposed moderated-mediation model, the index of moderated was considered. The model is statistically non-significant ( $B = -0.006$ ,  $SE = 0.012$ , 95% CI [-0.022, 0.018]). Therefore, no support for the hypothesized moderated mediation was found.

### Mediation Analyses

Given the non-significance of the model but significant correlations (Table 1), two subsequent simple mediation analyses were conducted, exploring whether purpose in life and self-reflection separately predict academic self-concordance and well-being. A first mediation analysis assessed whether the effect of purpose in life on subjective well-being is mediated by academic self-concordance. The effect of purpose in life on academic self-concordance ( $B = 0.658$ ,  $SE = 0.154$ , 95% CI [0.355, 0.962],  $p < 0.001$ ) and the direct effect of purpose in life on subjective well-being ( $B = 0.492$ ,  $SE = 0.132$ , 95% CI [0.232, 0.752],  $p < 0.001$ ) were both found to be significant. The effect of academic self-concordance on subjective well-being ( $B = 0.068$ ,  $SE = 0.063$ , 95% CI [-0.057, 0.193],  $p = 0.282$ ) was non-significant. The indirect effect of purpose in life on subjective well-being through academic self-concordance was also not significant ( $B = 0.045$ ,  $SE = 0.041$ , 95% CI [-0.041, 0.125]). Therefore, no support for the predicted mediation model was found. See Figure 2 for the first mediation model.

### Figure 2

*Mediation Model of the Relationship Between Purpose in Life and Subjective Well-Being, Moderated by Academic Self-Concordance*



*Note.* Coefficients of the effects are presented for each pathway

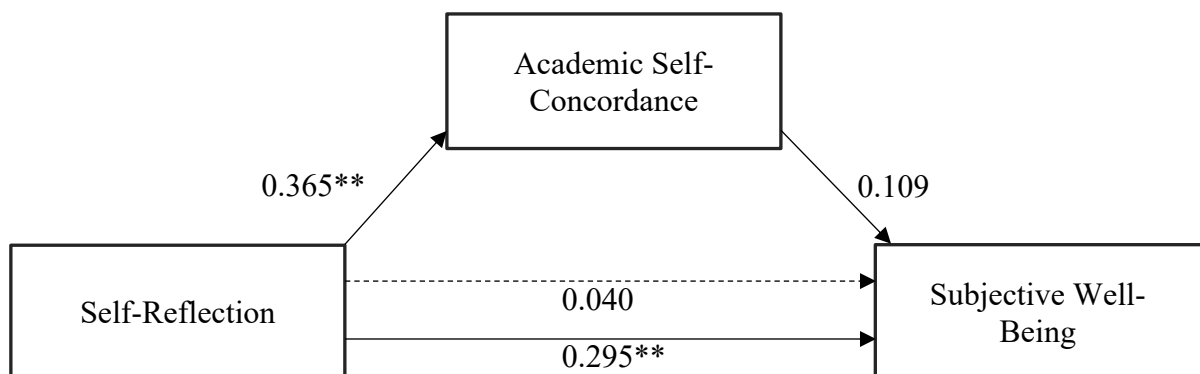
The dashed line indicates the indirect effect.

\*\* . Pathway is significant at the 0.01 level (2-tailed)

In a second mediation analysis, self-reflection was entered as the predictor. It was post hoc proposed to affect subjective well-being through the mediator academic self-concordance. The effect of self-reflection on academic self-concordance ( $B = 0.365$ ,  $SE = 0.118$ , 95% CI [0.133, 0.598],  $p < 0.01$ ) and the direct effect of self-reflection on subjective well-being ( $B = 0.295$ ,  $SE = 0.094$ , 95% CI [0.109, 0.481],  $p < 0.01$ ) were both not significant. The effect of academic self-concordance on subjective well-being ( $B = 0.109$ ,  $SE = 0.059$ , 95% CI [-0.007, 0.224],  $p = 0.065$ ) was non-significant. The indirect effect of self-reflection on subjective well-being through academic self-concordance has been non-significant ( $B = 0.040$ ,  $SE = 0.026$ , 95% CI [-0.002, 0.097]). Therefore, the predicted second mediation model was not supported. See Figure 3 for the second mediation model.

### Figure 3

*Mediation Model of the Relationship Between Purpose in Life and Subjective Well-Being, Moderated by Academic Self-Concordance*



*Note.* Coefficients of the effects are presented for each pathway

The dashed line indicates the indirect effect.

\*\* . Pathway is significant at the 0.01 level (2-tailed)

Altogether, the moderated-mediation analysis was statistically non-significant. A first mediation analysis assessed whether academic self-concordance could predict the link between purpose in life and subjective well-being. A second mediation analysis examined whether academic self-concordance could predict the relationship between self-reflection and subjective well-being. Both follow-up mediations were not significant.

### **Discussion**

Considering students' risk for low well-being (Stallman, 2010), this paper sought to understand how purpose in life exerts its positive impacts on students' well-being. Therefore, it was hypothesized that academic self-concordance would mediate the relationship between purpose in life and subjective well-being, such that with increasing purpose in life, academic self-concordance and subjective well-being would increase. It was further hypothesized that self-reflection would strengthen this mediation pathway, such that with increasing self-reflection and purpose in life, academic self-concordance and, subsequently, subjective well-being would increase. However, the results did not support the proposed moderated-mediation model. Based on significant correlations, two follow-up simple mediations were conducted. A first mediation analysis assessed whether the effect of purpose in life on subjective well-being is mediated by academic self-concordance. Although purpose in life significantly impacted both academic self-concordance and subjective well-being in the mediation model, academic self-concordance could not significantly predict well-being. The indirect effect did not support the mediation model. In a second mediation, it was explored whether self-reflection affects subjective well-being in students through academic self-concordance. Self-reflection significantly influenced both academic self-concordance and well-being. The effect of academic self-concordance on well-being was not significant, and thus, the indirect effect of self-reflection on subjective well-being did not support the mediation model.



## **Moderated Mediation**

Regarding the moderated mediation model, no support was found that students with increasing self-reflection and purpose in life would experience greater academic self-concordance and, subsequently, greater subjective well-being. The model could potentially not capture the complexity of the involved relationships that were indicated by previous research (Kashdan et al., 2023; Lewis, 2020; Sheldon & Elliot, 1999; Wan et al., 2021). Within the model, purpose in life could predict subjective well-being, aligning with prior research (Barcaccia et al., 2023; Kashdan et al., 2023; Lewis, 2020). This indicates that students with a higher purpose in life experience greater well-being. Although academic self-concordance was unable to mediate this relationship in the model, the link could suggest that purpose in life gives students direction and meaning, which may influence well-being.

Moreover, the moderating effect of self-reflection between purpose in life and academic self-concordance may be weaker than presumed. However, the way self-reflection was operationalized needs to be considered, as it could have influenced the outcome. Passive and negative self-reflection, which can resemble rumination (Stein & Grant, 2014; van Seggelen-Damen, 2023), may not drive the pursuit of self-concordant goals in students. Rumination describes repetitive, negative thinking, which hinders problem-solving and goal achievement (Kowalski et al., 2024). Accordingly, the negative affect associated with rumination (van Seggelen-Damen, 2023) can impair effective decision-making (Smyth et al., 2020) and, thus, academic self-concordance. In future research, self-reflection should be operationalized in a more active and goal-oriented way to ensure it is not confounded with rumination. For instance, self-reflection in the context of a guided intervention is potentially more goal-oriented and may prompt students to actively reassess whether their academic goals are aligned with their purpose in life.

Furthermore, as research suggests a link between mindfulness and self-concordance, as well as mindfulness and purpose in life (Smyth et al., 2020; Warren et al., 2018),

mindfulness needs to be considered as a moderator. Mindfulness is associated with lower negative affect, which can improve decision-making (Smyth et al., 2020) and the selection of concordant goals. Additionally, mindfulness is suggested to increase self-concordance through heightened awareness. Compared to self-reflection, mindfulness fosters awareness in a more active and nonjudgmental way (Yu, 2017), which may promote more effective selection and pursuit of academic self-concordant goals. Therefore, future research should replicate the original predicted model with mindfulness as the moderating variable.

The results further suggest that academic self-concordance could not predict general well-being within the model. Although purpose in life helps students select and pursue concordant academic goals, these goals may not be sufficient to enhance students' general well-being. Well-being is a broad concept, and the literature does not agree upon a coherent framework of well-being, underscoring the difficulty of grasping the construct (Das et al., 2020; Lindert et al., 2015). Based on Sheldon & Elliot (1999), it was suggested that students who accomplish academic concordant goals experience positive emotions through the fulfillment of psychological needs, positively impacting general well-being. However, well-being in students appears to be affected by domains other than academia. For instance, definitions of well-being often include experiencing positive relationships and functioning well (Ruggeri et al., 2020), which academic self-concordance may not directly impact. Additionally, many other domains such as social relationships and physical health are associated with well-being (Lindert et al., 2015) and add to the complexity of well-being as well as impact students' well-being. It is suggested that academic self-concordance in students only affects some areas of well-being, which may explain the independent correlation with well-being. This may also explain why academic self-concordance could not predict subjective well-being in the model. Students might feel satisfied and motivated in the academic domain through pursuing and accomplishing academic goals, but this may not affect their overall life satisfaction. Therefore, future research should consider academic outcomes

such as academic satisfaction, motivation, and success, that are more closely linked to academic self-concordance. Accordingly, research suggests a link between self-concordance and both academic motivation and success (Schippers & Ziegler, 2019). Furthermore, future research should consider more specific components of well-being, such as positive affect, which is linked to need-satisfying experiences (Sheldon & Elliott, 1999).

### **First Simple Mediation**

The non-significance of the first simple mediation suggests that purpose in life could not predict well-being through academic self-concordance. However, consistent with research, purpose in life was related to academic self-concordance (Kashdan et al., 2023; Lewis, 2020; McKnight & Kashdan, 2009; Wan et al., 2021). This suggests that students with a higher purpose in life are motivated to select and pursue academic concordant goals through its self-organizing function (McKnight and Kashdan, 2009).

On the other hand, high academic self-concordance could not predict greater subjective well-being. As previously discussed, this implies that students who pursue academic goals in line with their core values and interests do not experience greater life satisfaction (Das et al., 2020; Lindert et al., 2015). This further underlines the importance of future research investigating academic-related outcomes such as academic satisfaction and success and more precise components of well-being such as positive affect. It further needs to be considered that students pursue goals outside the academic domain, which may explain the link between purpose in life and well-being. Future research should consider life concordance to investigate whether purpose in life promotes the pursuit of concordant goals in other domains, such as the social domain, and, thereby, fosters students' well-being.

Finally, in accordance with previous studies (Barcaccia et al., 2023; Kashdan et al., 2023; Lewis, 2020), purpose in life was linked to subjective well-being, suggesting that students with a high purpose in life do benefit from higher well-being. As academic self-concordance could not explain this link in the model, other mechanisms need to be

considered. For instance, research suggests a link between the big five personality dimensions and well-being (Anglim et al., 2020). Future research should consider personality traits, potentially mediating the link between purpose in life and well-being.

### **Second Simple Mediation**

The insignificant result of the second mediation suggests that academic self-concordance could not explain why self-reflective students experience greater well-being. In the model, students with higher self-reflection tended to pursue self-concordant academic goals. This supports the argument that self-reflection increases awareness of one's experiences, promoting the pursuit of academic concordant goals (Smyth et al, 2020). The findings suggest that those higher in self-reflection are indeed thinking about their core values and linking them to their academic goals. In line with the moderated-mediation and simple mediation analyses, students with self-concordant academic goals did not experience greater well-being which supports the argument that students' well-being is affected by other life domains (Lindert et al., 2015). This reinforces the importance of future research focusing on academic-related outcome variables and more specific variables such as positive affect, which are closer linked to academic self-concordance.

Finally, the findings suggest that students who regularly self-reflect experience higher well-being. Previous research is ambivalent regarding the link between self-reflection and well-being (Stein & Grant, 2014). However, research often focuses on the ruminative aspect of self-reflection, leading to mixed findings. Stein & Grant (2014) found supporting evidence that self-reflection influences subjective well-being through heightened insight and positive self-evaluation. Future research could provide further insights into the link between self-reflection and well-being by focusing on positive and goal-oriented self-reflection as students are suggested to benefit from self-reflection.

### **Practical Implications**

While the moderated-mediation model was not supported, its results still offer noteworthy insights that can contribute to the promotion of students' well-being and academic self-concordance. Self-reflection and purpose in life are suggested to be important in organizing academic self-concordant goals, which have various benefits besides overall well-being (Wan et al., 2021). The significant correlation between academic self-concordance and subjective well-being suggests that academic self-concordance partly influences well-being. In particular, academic self-concordance positively affects academic outcomes such as academic motivation and success (Schippers & Ziegler, 2019), which is beneficial for students.

Additionally, purpose in life affects subjective well-being, although the precise mechanisms underlying the relationship are not fully understood. Nevertheless, low purpose in life is related to lower subjective well-being among students, and academic self-concordance partly affects students' well-being, holding implications for academia. Universities should implement measures to increase students' purpose in life, which in turn may increase academic self-concordance and subjective well-being. Mentorship programs fostering purpose can be incorporated into universities' curricula. Students should be guided to identify and embrace their purpose in life (Moran, 2001; Pfund et al., 2020), as well as to develop a plan to strive for this purpose (Schippers & Ziegler, 2019) through aligning their academic goals. First, students should be guided to identify important values and deliberate about their ideal future, including potential career pathways (Schippers & Ziegler, 2019). This objective can be pursued through writing exercises where students reflect on personally relevant values and life aims. Moreover, students should be guided in formulating goals to pursue their purpose in life and committing to them (Schippers & Ziegler, 2019). This intervention could increase students' purpose and, subsequently, academic self-concordance through developing a concrete plan to reach their central life aims. In turn, students may experience higher academic motivation, satisfaction, and success, potentially affecting general

subjective well-being. This can counteract the prevailing problems with stress and well-being among students (Auerbach et al., 2018; Stallman, 2010).

Moreover, low self-reflection has been associated with lower well-being in students. Additionally, due to the indicated link between mindfulness and both purpose in life and self-concordance (Smyth et al., 2020; Warren et al., 2018), mindfulness should be considered in academic settings. Both mindfulness and self-reflection practice in university settings may increase academic self-concordance and further contribute to students' well-being. Mindfulness and self-reflection could help students develop greater self-awareness and think about their core values in an active and goal-oriented way. This can further help students to ensure the alignment of their purpose in life and academic goals. This could further improve their overall academic satisfaction and potentially broader domains of well-being. Altogether, despite the non-significant model, it is suggested that students' purpose in life plays a significant role in students' well-being, which should be considered by the university's policymakers. Students should be encouraged to take a more active, reflective, and mindful role in identifying their purpose in life and aligning their academic goals.

### **Limitations**

Several limitations of the study's design need to be acknowledged, especially regarding the significant findings that call for future research. Firstly, the cross-sectional study design does not allow for making inferences about causality (Phan & Ngu, 2017), as the direction of any relationships cannot be ensured. Future research needs to use longitudinal designs to explore temporal precedence and provide insights into how academic self-concordance influences the relationship between purpose in life and well-being over time. Goals are often long-term, and self-concordance is suggested to affect subjective well-being in the long run.

Second, self-report measurements can only indicate correlational relationships and are susceptible to response biases such as social desirability (Osborne & Blanchard, 2011). It

further needs to be considered that participating students were unmotivated, given that they are required participate in research for course credits. Unmotivated participants may provide low-quality responses or rush through the questionnaire, potentially affecting the overall validity of the findings (Osborne & Blanchard, 2011). This could also explain null effects. Future research should conduct experiments to explore the direction of the relationships.

Moreover, the restriction of the sample to first-year psychology students from the University of Groningen limits the generalizability of the results. On average, the participants indicated a high degree of academic self-concordance. Additionally, the academic goals of the participants might be similar, since they study the same university degree. In future research, samples from other university degrees and from other universities should be drawn to find support or contradict this study's findings. Cultural differences in how purpose in life and self-reflection are perceived among students from various nationalities might have also influenced the results. For instance, cultural differences influence the effects of self-reflection (Tsai & Lau, 2013).

Ultimately, this study solely measured students' sense of purpose. It was not identified what their purpose really was or what values participants held. Research generally focuses on a sense of purpose and not on the actual content of purpose (Burrow et al., 2021). This emphasizes the importance of future research investigating student's actual purpose in terms of values. This helps to shed more light on the relationship between purpose in life and academic self-concordance as well as well-being and supplement this study's findings. The content of purpose potentially affects its beneficial effects (Burrow et al., 2021). Future research should consider whether the content of purpose influences to what extent people pursue their goals autonomously and in line with their purpose in life.

## **Conclusion**

In conclusion, this study sought to gain insights into factors contributing to students' well-being and evoke university measures to address low well-being in students. A

moderated-mediation model explored the link between purpose in life and well-being in the academic context to supplement existing literature. Academic self-concordance was proposed to mediate the relationship between purpose in life and subjective well-being. Higher levels of self-reflection, together with high purpose in life, were hypothesized to increase academic self-concordance. The study did not find support for the moderation-mediation model. Likewise, two follow-up simple mediation analyses were insignificant. It is suggested that domain-specific self-concordance could not predict students' overall well-being within the model. Despite the insignificant model, the findings indicate that purpose in life and self-reflection promote academic self-concordance and partially influence subjective well-being. This suggests that both purpose in life and self-reflection organize and guide the selection and pursuit of academic goals. Universities should implement measures such as reflective writing and goal-setting exercises to allow students to identify their purpose in life and set academic goals accordingly. These measures may increase academic self-concordance and subjective well-being in students.



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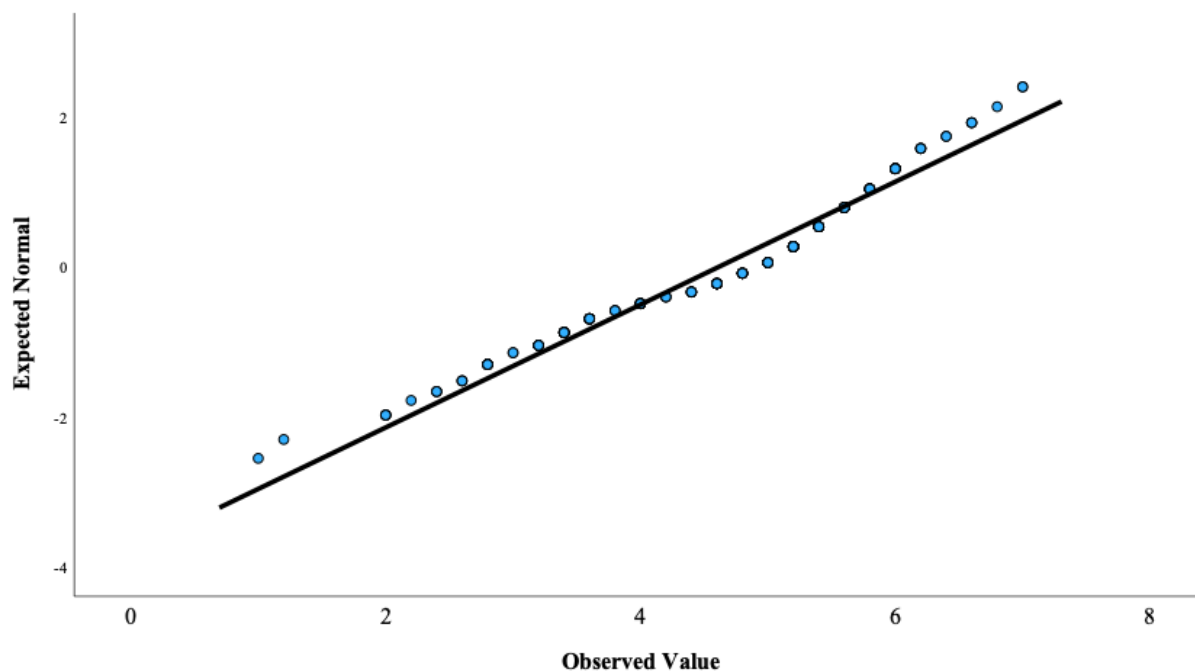
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## Appendix

### Appendix A

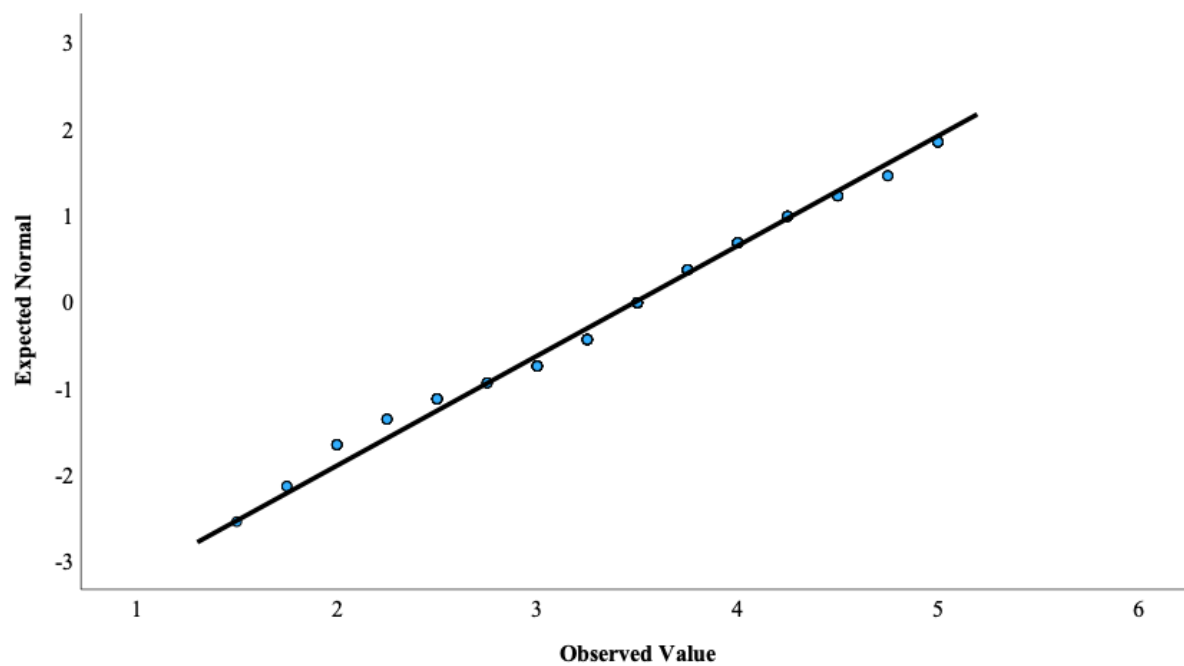
**Figure 1**

*Normal Q-Q Plot of Subjective Well-Being*



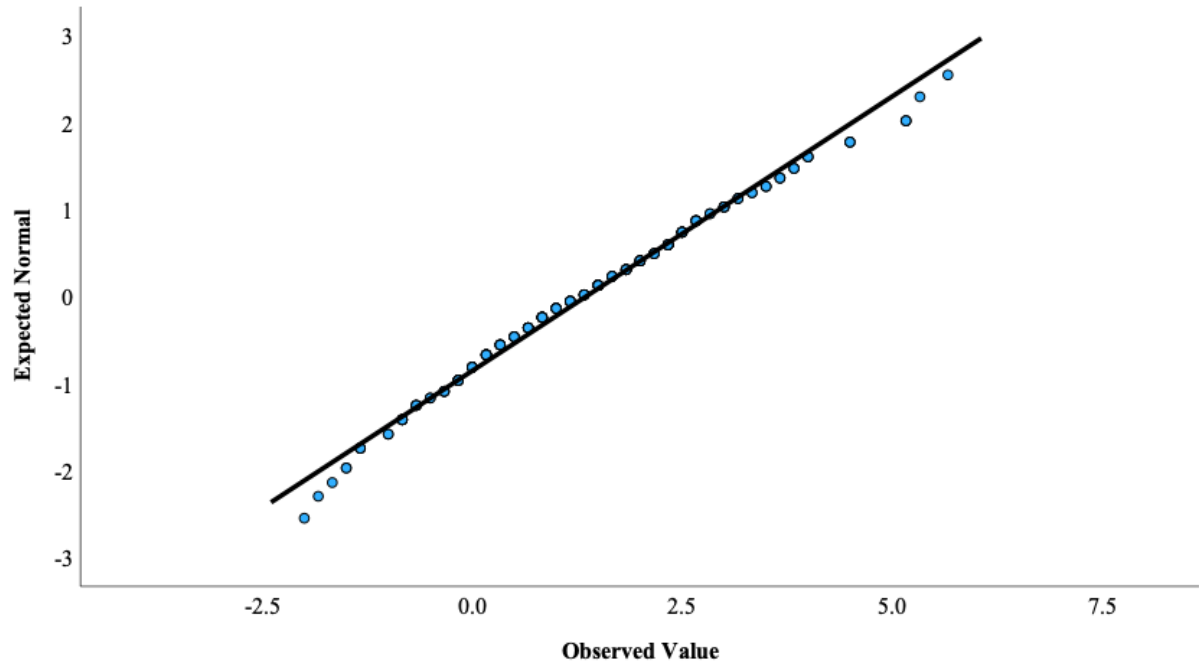
**Figure 2**

*Normal Q-Q Plot of Purpose in Life*

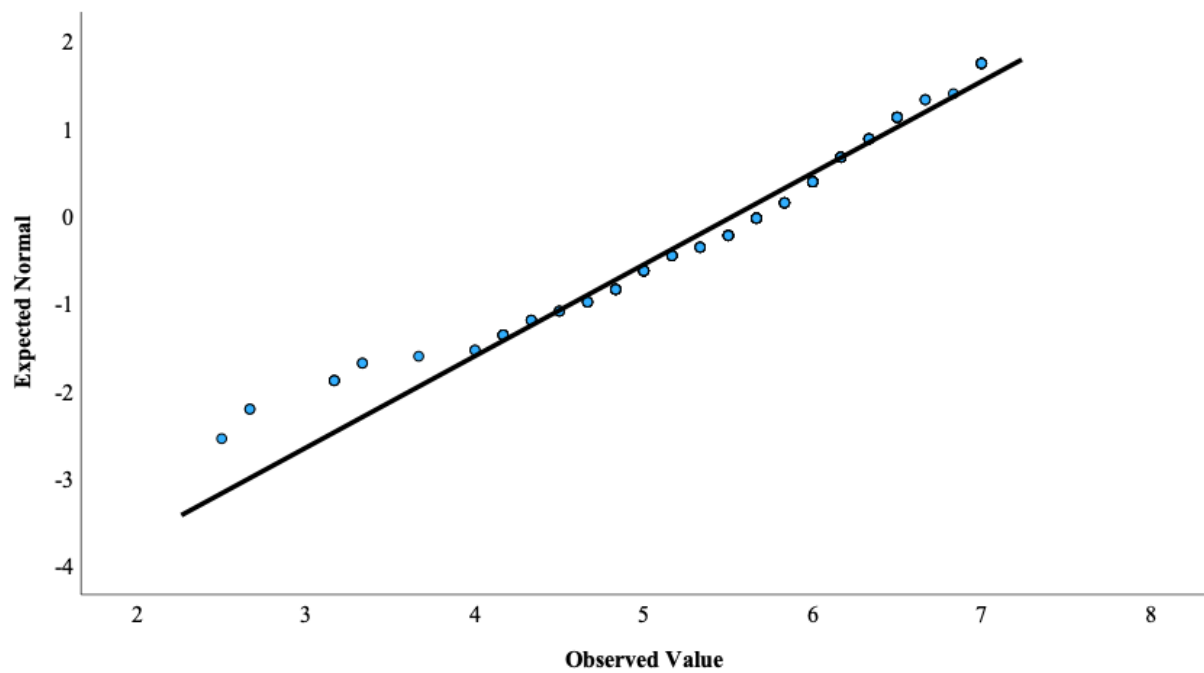


**Figure 3**

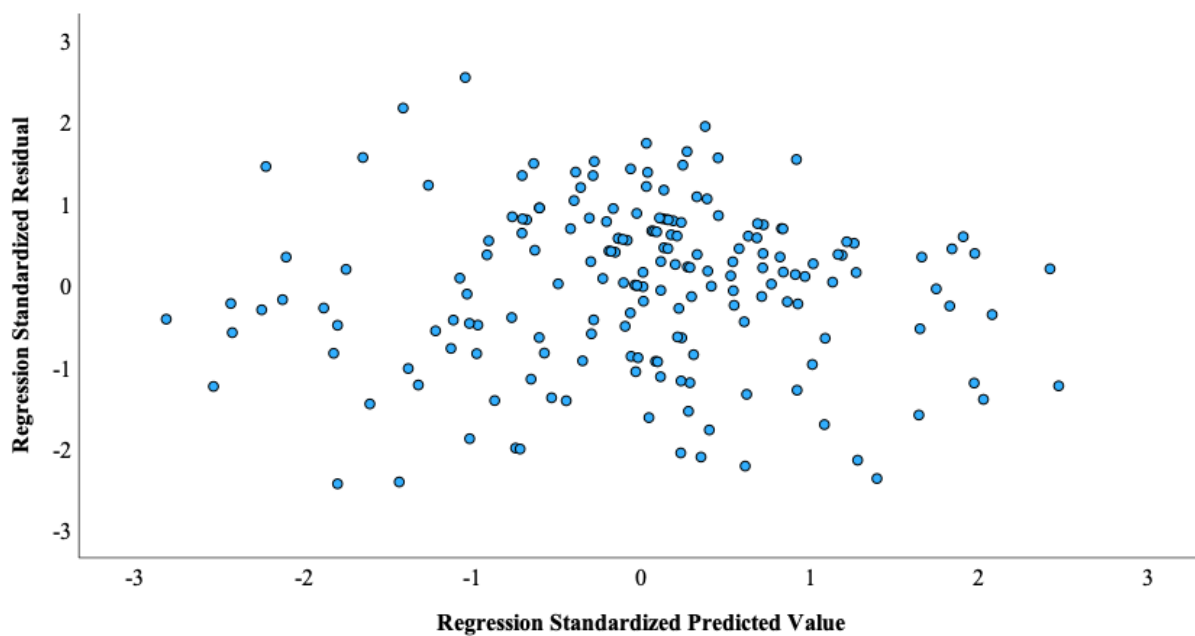
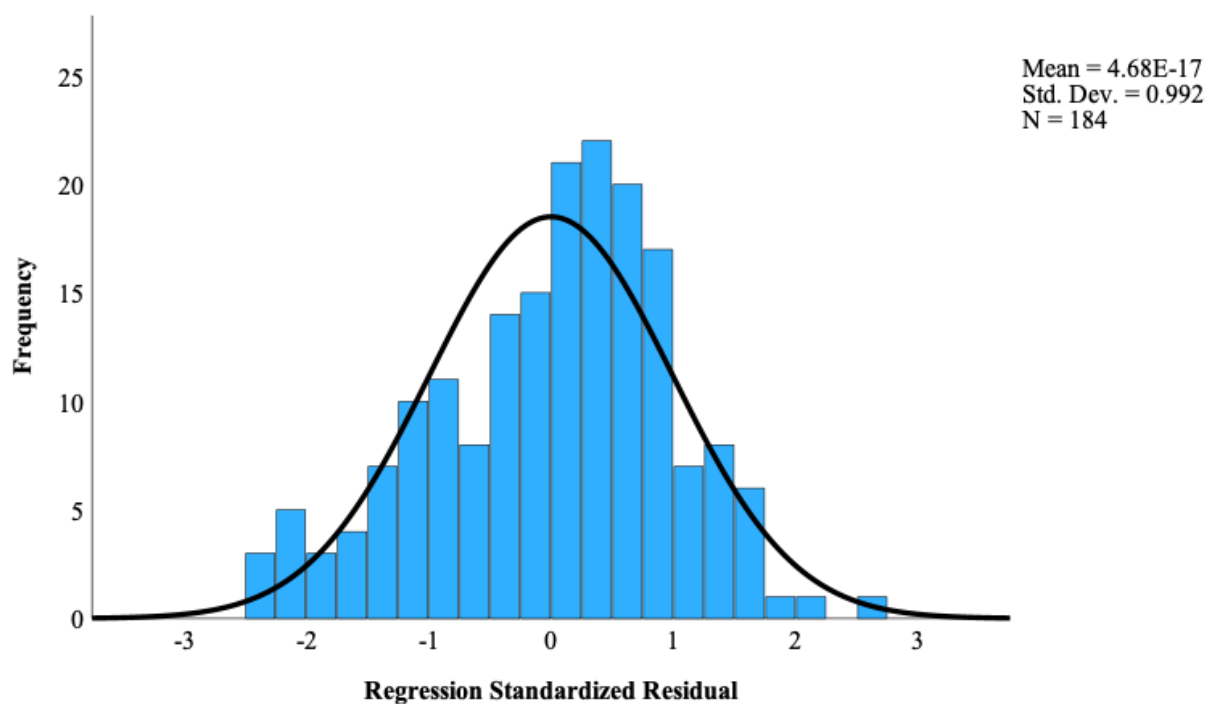
*Normal Q-Q Plot of Academic Self-Concordance*

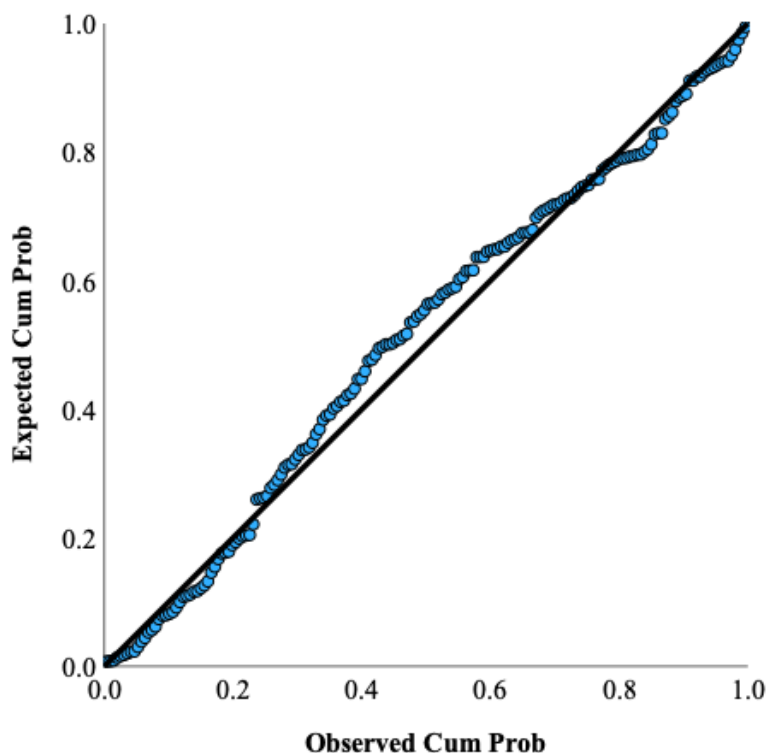
**Figure 4**

*Normal Q-Q Plot of Self-Reflection*

**Appendix B****Figure 5**



*Scatterplot of Residuals***Figure 6***Histogram of Residuals***Figure 7***Normal P-P Plot of Regression Standardized Residual*



## Appendix C

### *Purpose In Life*

Please read each statement carefully and indicate the extent to which you agree or disagree with each statement based on the following scale from 1 – 5

1. There is a direction in my life
2. My plans for the future match with my true interests and values
3. I know which direction I am going to follow in my life
4. My life is guided by a set of clear commitments

### *Academic Self-Concordance Questionnaire*

In this section, you will be asked to list 3 academic goals.

Here are some examples of academic goals: "I want to achieve an eight in my course", "I want to complete my assignments on time", "I want to attend all my lectures", "I want to study for at least two hours every day", "I want to actively participate in my practicals", "I want stay up to date with my readings", "I want make a good contribution to my group assignments".

These are just examples, please choose goals relevant to you.

Please write down your first academic goal.

Rate how much the following statements reflect the reason why you are pursuing your first academic goal from 1 (not at all for this reason) to 7 (completely for this reason).

1. Because somebody else wants you to, or because you will get something if you do
2. Because you would feel ashamed if you did not - you feel that you should try to accomplish this goal
3. Because you believe it is an important goal to have
4. Because of the fun and enjoyment which the goal will provide you - the primary reason is simply your interest in the experience itself

### ***Subjective Well-Being Questionnaire***

Below are five statements that you may agree or disagree with. Indicate your agreement with each statement.

1. In most ways my life is close to my ideal
2. The conditions of my life are excellent
3. I am satisfied with my life
4. So far I have gotten the important things I want in life
5. If I could live my life over, I would change almost nothing

### ***Self-Reflection Questionnaire***

Below are six statements. Please read each statement carefully and indicate the extent to which you agree or disagree with each statement.

1. I frequently examine my feelings
2. I frequently take time to reflect on my thoughts
3. I often think about the way I feel about things
4. It is important to me to evaluate the things that I do
5. I am very interested in examining what I think about

6. It is important to me to try to understand what my feelings mean