Understanding Self-Reflection Through Personality: An Investigation of Traits and Individual Differences

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Abstract

This study examines relationships between personality and aspects of self-reflective thinking and to what extent these relationships are moderated by contextual and demographic factors. The study assessed the predictive power of the Big Five traits on three subdimensions of self-reflection: Need for Self-Reflection (NSR), Engagement in Self-Reflection (ESR), and Insight (ISR). Data were collected from 158 participants and analysed using hierarchical regression and moderation analysis. The results show that Openness to Experience is the most consistent and robust predictor across all subdimensions of self-reflection, thereby confirming its theoretical link with attributes such as cognitive flexibility, tolerance of ambiguity, and a general orientation towards self-exploration. Neuroticism also emerged as a significant trait, positively predicting the need and engagement in self-reflection, but negatively predicting reflective insight – highlighting both the adaptive and maladaptive facets of reflective thinking. Other traits, such as Extraversion and Conscientiousness, showed limited or subdimension-specific effects. Of six potential moderators – age, educational background, emotional disclosure, sexual orientation, therapeutic experience, and major life events – only age and education significantly moderated the relationship between Openness and NSR. No moderating effects were found for ESR or ISR, suggesting that these dimensions may be more trait-like or even independent of external context. Taken together, these findings underscore the role of personality in shaping self-reflective tendencies, with Openness and Neuroticism playing a particularly central role. Contextual factors appear to influence self-reflection more selectively, suggesting the relative stability of reflective engagement and insight across individual backgrounds. Implications for education, coaching, and personality research are discussed, such that fostering reflection may require more than teaching techniques – it may also involve recognising and working with individual personality-based barriers or supports, rather than assuming one method fits all.

Understanding Self-Reflection Through Personality: An Investigation of Traits and Individual Differences

Self-reflection, the process of inspecting and evaluating one's own thoughts, emotions, and actions (Grant et al., 2002) plays a crucial role in personal (Mortari, 2015) and academic development, influencing various learning outcomes and skill acquisition (Åström et al., 2025; Drewery & Pretti, 2023; McCrae & Costa Jr., 1999; Tao & Yu, 2024; Tight, 2024; Weisskirch, 2018; Wielkiewicz & Meuwissen, 2014). In addition, self-reflection is considered a learnable skill (Russell, 2005), suggesting that its development depends not only on personality but also on experience and deliberate practice. Furthermore, it has been suggested that this capacity can predict improved performance in other areas, such as writing (Tao & Yu, 2024). Åström et al. (2025) suggest self-reflection and trait curiosity, a concept closely related to Openness to Experience, to be the two most important predictors of the attitude towards lifelong learning. Research shows that they are positively related to tenacity in academic endeavours (Weisskirch, 2018), enhanced college GPAs (Wielkiewicz & Meuwissen, 2014), and a deep learning approach – all of which further enhance task adaption (Drewery & Pretti, 2023). People hampered in engaging with self-reflective processes tend to be closer to the brink of academic failure (Rashid et al., 2022), unhealthy and misleading perfectionism (Tao & Yu, 2024), and a halt in enhancing one's subjective well-being due to limited self-insight (Stein & Grant, 2014). Difficulties in engaging with self-reflection can have negative consequences, raising questions about the factors that facilitate or hinder this process.

Some research has implied connections between self-reflection and personality, for example, a predictive positive role of Openness to Experience (Gärtner et al., 2024; Kostenko, 2015) and Extraversion has been observed (Gärtner et al., 2024; Rashid et al., 2022). But their precise relation is yet to be studied. Specifically, studying the relationship

between personality traits and self-reflection is important because personality influences how individuals process experiences, regulate emotions, and engage in introspection (McCrae & Costa Jr., 1999). Understanding this connection can help explain why some people are more self-aware and open to personal growth, while others struggle with recognising and adjusting their behaviours (Lepri et al., 2016). Results could yield suggestions for differentiated therapeutic practices, educational approaches, or even individual or self-help exercises. Therefore, this study will investigate the relationship between the Big Five personality traits and the propensity to self-reflect.

Theoretical Framework

The Role of Self-Reflection in Learning, Identity, and Personal Growth

The term reflection was coined by Dewey in 1903. Since then, researchers have come up with definitions that mostly build on his idea. According to Dewey (1933), reflection involves a series of steps: (a) experiencing doubt or confusion about a situation, (b) forming initial interpretations of its possible meanings and implications, (c) thoroughly analysing relevant factors to better understand the issue, (d) developing preliminary hypotheses, and (e) determining a course of action. These stages represent reflection as a deliberate, problem-solving process that builds on rational analysis. Subsequent models of reflection have adopted this framework and expanded its scope to include emotional (Finlay, 2008), experiential, and relational dimensions (Rodgers, 2002; Schön & DeSanctis, 1986). This has paved the way for discussions around more introspective forms, such as self-reflection.

It is challenging to delineate the precise distinction between reflective and self-reflective practice, as no definitive definitions have yet been established (Marshall, 2019; Tight, 2024). It has sparked debate about whether reflection must necessarily involve the self to qualify as self-reflection. While some studies draw a connection between self-reflection and the development of one's identity (Dishon et al., 2017) or self-construct (Katznelson,

2014), this seems to be no necessity for reflection to be titled self-reflection. More precisely, as can be read in Marshall's (2019) systematic review of 'what reflection is', many of the existing interpretations of reflection include the "self" as an integral part of reflection without mentioning it as *self*-reflection explicitly, or the words are used interchangeably (Ixer, 2016; Lew & Schmidt, 2011). Similarly, Grant et al. (2002) refer to self-reflection as a subordinate construct of "private self-consciousness". This study, in its examination of reflection, aligns with the conceptualisations of self-reflection advanced by Grant et al., and their construct of insight, the clarity of knowledge of one's ideas, feelings and actions, elucidating self-reflection as a tool for private or personal inquiry, distinct from but concurrent with its common application in educational and professional contexts. Accordingly, this study refers to self-reflection as the process of inspecting and evaluating one's thoughts, emotions, and actions.

Developing the habit of self-reflection is essential, as it enables individuals to engage thoughtfully with life and gain a deeper awareness of their own experiences (Mortari, 2015). According to Mortari (2015), one can live either authentically or inauthentically: inauthenticity arises when a person remains unreflective, passively caught up in their thoughts, while authenticity emerges when one adopts a mindful and conscious perspective on their inner life. The proper nature of self-reflection is consistent across all ages and its settings of application, whether for private or academic growth since the self is invariably the primary beneficiary. Therefore, given the multitude of research on reflection in education, it is reasonable to include literature covering both academic and private contexts, as the concept of self-reflection extends beyond educational settings either way.

Self-reflection requires both cognitive and emotional discipline (Rodgers, 2002). It demands full engagement in the present experience, allowing for focused observation and direct participation. An open-minded approach is essential, enabling multiple interpretations

rather than restricting understanding and subsequent actions. Additionally, individuals must be willing to adjust their perspective if new insights emerge, ensuring that their actions align with their evolving understanding and beliefs. As noticeably stated, Rodgers identified several traits essential for self-reflection, many of which align with personality theories like the Big Five (Goldberg, 1992).

Personality as a Predictor of Self-Reflection: A Review of Existing Research

The Big Five model of personality traits provides a thorough foundation for comprehending human nature (Yang et al., 2024). Each of the five main traits of personality – Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism – is represented by a cluster of facets in the Big Five personality model (Costa & McCrae, 1992). The facets capture nuanced patterns of thought, feeling, and behaviour within a trait. Since the five characteristics are on a continuum and people can fall anywhere along any dimension, the Big Five model acknowledges the complexity of human personality in contrast to binary classifications. Examining how personality traits shape self-reflective thinking, decision-making, and learning might reveal which dispositions support or hinder such processes across contexts.

Openness to Experience and Extraversion. Openness is associated with receptiveness to new ideas, experiences, and perspectives. Individuals high in this trait are more likely to embrace diverse cultures, adapt to new environments, and engage with novel learning opportunities, fostering both self-efficacy and personal growth (Elom et al., 2024). It also predicts divergent thinking, flexible problem-solving and creative insight (Giancola et al., 2024). Alongside Openness, extraverted individuals are typically sociable, energetic, and enthusiastic, traits linked to well-being and emotional health (Fuente et al., 2024; Jovanović & Šakan, 2024; Yu et al., 2024), whereas introverted individuals are more reserved, analytical, and drawn to quiet, introspective settings (Blevins et al., 2022).

Given the absence of direct empirical studies on the relationship between Openness and self-reflection, the following findings, though informative, must be treated as indirect evidence and interpreted with appropriate caution.

Openness has been identified as a predictor of self-reflection, particularly in conjunction with Extraversion and Honesty-Humility (Gärtner et al., 2024). Research has indicated that Openness negatively predicts the need for cognitive closure (NCC) ($\beta = -.347$, $p < .001$), suggesting a person high in Openness tends to tolerate ambiguity and is more likely to employ an exploratory approach to decision-making. The NCC, which can be evoked to different degrees depending on the situation, represents a person's propensity to seek cognitive closure when confronted with ambiguity. This might indicate a poorer disposition for feeling the need to and engage in self-reflective thinking. While Gärtner et al. (2024) did not investigate self-reflection directly, their findings are consistent with the idea that tolerance for ambiguity, which is promoted by Openness, may facilitate reflective thinking. This corresponds with Kostenko's (2015) finding that Openness positively predicts systemic reflection ($\beta = .343$, $p < .001$), which involves the deliberate evaluation of complex or uncertain situations.

Kostenko (2015) investigated the personality determinants (the Big Five) of Leontiev and Osin's (2014) concept of "good" and "bad" self-reflection, categorised as productive (systemic) reflection and non-productive types of reflection (introspection and quasi-reflection). According to Leontiev and Osin (2014), "good" reflection, or systemic reflection, involves self-distancing to view oneself from an external perspective, balancing self-focus with situational awareness, and fostering adaptability, problem-solving, and psychological well-being. Introspection, or self-absorption, is an overly inward-focused self-reflection style that often leads to rumination, heightened negative emotions, and reduced life satisfaction, making self-regulation and decision-making less effective. Quasi-reflection, or unproductive

speculation, involves excessive, detached thinking about hypotheticals, serving as a psychological escape that undermines resilience and emotional stability.

Conscientiousness. A person high in Conscientiousness tends to demonstrate responsibility, a strong work ethic, and goal-directed behaviour (Mreydem et al., 2025). They are often organised, reliable, and committed to their tasks, striving for achievement and consistency (Yu et al., 2024). Such individuals tend to be persistent and thorough, showing a high degree of self-control and a focus on long-term goals (Chen & Wang, 2024). They are also known for their attention to detail and ability to plan and execute tasks effectively (Jovanović & Šakan, 2024).

In the context of self-reflection, Conscientiousness appears to act as a barrier rather than a facilitator. Gärtner et al. (2024) showed that Conscientiousness ($\beta = .172$, $p = .013$) and Neuroticism ($\beta = .308$, $p < .001$) positively predicted NCC, suggesting a tendency towards structure and decisiveness, thereby inhibiting deeper forms of open-ended self-reflection. Conversely, other studies report a facilitating role for Conscientiousness in self-reflective processes. For example, in the context of self-regulated learning (SRL), the preparation and self-reflection stages of SRL (Zimmerman, 1986) – planning, doing and reflecting – were significantly predicted by Conscientiousness, $\beta = .21$, $p < .001$ (Weng et al., 2024). Similarly, Burak and Atabek (2023) found that Conscientiousness significantly predicted self-reflection among pre-service music teachers, accounting for 16.9% of the variance in self-reflection scores, $F(5, 160) = 6.515$, $p < .001$. Taken together, these findings suggest that while Conscientiousness may inhibit spontaneous or open-ended self-reflection (as in NCC), it may simultaneously promote structured or goal-directed forms of self-reflection.

Agreeableness. Agreeable individuals are characterised by warmth, cooperation, and a strong inclination toward maintaining positive social relationships (Feng et al., 2024). They prioritise teamwork, social harmony, and adherence to social norms, often valuing collective

success over individual achievement (Wilmot & Ones, 2022). Their tendency towards kindness and empathy makes them less prone to aggression and more likely to experience positive emotions and life satisfaction (Jovanović & Šakan, 2024). In the reviewed literature, findings for Agreeableness were only linked to a study about teachers with a greater willingness to collaborate and discuss topics and teaching methods with colleagues (Safarie & Tarlani-Aliabadi, 2014), but no direct connections to self-reflection were found.

Neuroticism. Lastly, individuals scoring high on Neuroticism are prone to anxiety, self-doubt, and emotional instability, often reacting strongly to stress and uncertainty (Safarie & Tarlani-Aliabadi, 2014). They tend to exhibit perfectionistic tendencies, overthinking and striving for unattainable standards (Bien et al., 2024). This heightened emotional reactivity can contribute to lower relationship satisfaction and a generally lower sense of subjective well-being (Bach et al., 2025; Jovanović & Šakan, 2024). Safarie and Tarlani-Aliabadi (2014), who studied 200 university professors' personalities and their engagement in self-reflection, found a connection between teachers high in Neuroticism being more likely to reject metacognitive elements of reflection ($\beta = -.16$, $p < .001$). This finding aligns with the correlation between Neuroticism and the two forms of "bad" reflection: introspection and quasi-reflection (Kostenko, 2015). In a separate study, Rashid et al. (2022), investigating self-reflective aptitude in students who were deemed to be "high achievers" as well as "low achievers" and the moderating role of their teachers, identified emotional imbalance as a contributing factor to academic failure, exhibiting the negative relationship of Neuroticism and self-reflection. Finally, Weng et al. (2024) found that none of the three stages of SRL could be predicted by Neuroticism.

Overall, while traits like Openness to Experience foster adaptive self-reflection, others, such as Conscientiousness and Neuroticism, may either support or hinder self-reflective processes depending on the context. Conscientiousness might foster insight while

inhibiting spontaneous self-reflection. Neuroticism may leave people with a need for self-reflection but limited insight after somewhat superficial self-reflective thinking (Kostenko, 2015). Findings for Extraversion only showed effects in conjunction with other personality traits. Similarly, Agreeableness was linked to higher levels of collaboration and openness for discussion – qualities typical for this trait. Their precise relationship with self-reflection remains to be explored.

Contextual and Individual Moderators

As in any other research, one concept, in this case, personality, can seldom serve as a single predictor or explanation for the topic in investigation. Hence, six variables are introduced as possible moderators of the relationship between personality and self-reflective action.

Age. Self-reflection is a component of the ancient and widely recognised concept of wisdom (Bangen et al., 2013; Glück & Weststrate, 2022; Jeste et al., 2021; Thomas et al., 2019, 2022). In addition, accumulated life experience with age seems to be an impetus for wisdom (Grossmann et al., 2013). It is further worth noting that with cognitive decline with age, the mental flexibility of the brain also decreases, but this appears not to be related to self-reflective capacity (Ardelt, 2011). In their "integrative model of wise behaviour in real life", Glück and Weststrate (2022) mention self-reflection alongside "life- and self-knowledge" and "metacognitive capacities" as determinants of a wisdom-fostering mental state that ultimately leads to wise behaviour. So, rather than curtailing one's capacity for self-reflection, age may temper it, shifting its tone from questioning to understanding and from seeking answers to quietly holding them.

Educational Background. Several studies have indicated that familiarising students with self-reflection is a common goal in higher education (Husebø et al., 2024; Rashid et al., 2022; Safarie & Tarlani-Aliabadi, 2014; Tight, 2024; Zimmerman, 1989). Self-reflection

helps students develop resilience, resourcefulness, and critical thinking (Rogers, 2001). It fosters habits of thoughtful analysis that support lifelong learning and adaptability. Both teachers as well as students benefit from self-reflective practice. It is therefore plausible to consider the educational background of a person, especially in the case of higher education, to be related to one's subsequent engagement with self-reflection.

Emotional Disclosure. As posited by Rimé (2017), emotional disclosure can be defined as the act of communicating significant emotional experiences to close social connections. This process is of crucial importance to personal development as it enhances self-awareness, builds emotional resilience, and encourages self-acceptance (Novikova, 2024). Reflecting on and expressing one's thoughts and emotions helps individuals to better understand their beliefs, values, and motivations, thus fostering deeper self-awareness. Additionally, sharing personal experiences provides a means to process emotions and gain new perspectives, making it easier to manage them effectively. Openly expressing one's feelings and experiences plays a vital role in mental well-being, emotional regulation, and forming meaningful relationships. To do so, Novikova (2024) stated that people must develop the ability to recognise and reflect on their emotions while also learning to communicate them in a way that aligns with their cultural context. Thus, it could be assumed that a more natural and regular disclosure of emotionally sensitive topics to friends may affect general self-reflective capacity.

Sexual Orientation. A person's sexual orientation can predetermine the occurrence of unpleasant social experiences (Orne, 2013). For LGBTQ+ students, each new environment presents the challenge of deciding whether to disclose their sexual or gender identity (Guittar & Rayburn, 2016). Rather than being a one-time event, "coming out" is an ongoing process that involves repeated self-reflection and identity disclosure in different contexts. Therefore, identifying as queer may not only encourage greater self-reflection but also make it

existentially inevitable. By this, the self may be transformed into an ongoing project shaped by the tension between inner authenticity and external validation.

Therapeutic Care. Psychotherapy, counselling and coaching commonly feature self-reflection as a valuable tool for personal development (Kurtsenovskaia & Yates, 2025; Viou & Georgaca, 2024). Kurtsenovskaia and Yates (2025) identify several themes in existential coaching, with a strong emphasis on self-reflection. Coaches noted that their approach supports clients in navigating existential questions by enhancing their ability to reflect on their thoughts, choices, and the nature of human existence. Through this reflection, clients develop a deeper understanding of freedom, the human condition, and mortality, leading to a shift in mindset. Similarly, Viou and Georgaca (2024) show that in psychotherapy, self-reflection improves in quality, as clients internalise self-compassionate voices from group dialogues. Consequently, therapeutic care provides an opportunity for reflection and, over time, may enhance its effectiveness. This could cultivate a more compassionate and existentially aware relationship with the self.

Major Life Events. A major life event refers to direct or indirect exposure to traumatic experiences such as actual or threatened death, serious injury or sexual violence (American Psychiatric Association, 2013). This can be through personal experience, witnessing the event, learning of its occurrence to a close loved one (if violent or accidental), or repeated exposure to distressing details in a professional capacity. Research suggests a direct correlation between self-reflection and major life events, particularly those that are challenging, emotionally intense, or transformative (Weststrate et al., 2018). Studies of wisdom development (Weststrate et al., 2018) and post-traumatic growth (Murray et al., 2024) show that major life experiences often prompt deeper self-reflection, leading to personal growth, increased self-awareness, and meaning-making. However, the extent to which self-reflection occurs depends on individual factors (e.g., cognitive style, emotional

resilience) and social support. Some people may avoid self-reflection due to distress, while others may engage in constructive self-examination that promotes psychological growth.

This Study

Recent research has highlighted the key function of self-reflection in the realms of both personal and academic development (Åström et al., 2025; Drewery & Pretti, 2023; Gärtner et al., 2024; King et al., 2007; Lepri et al., 2016; Mortari, 2015; Rashid et al., 2022; Stein & Grant, 2014; Tao & Yu, 2024; Thompson & Pascal, 2012; Weisskirch, 2018; Wielkiewicz & Meuwissen, 2014; Zimmerman, 1986). Personality has been shown to relate to how individuals process experiences, regulate emotions, and engage in introspection (McCrae & Costa Jr., 1999; Novocký, 2016), thereby impacting self-awareness and adaptability (Lepri et al., 2016). Consequently, by examining which personality traits enable or hinder self-reflective action in individuals this study aims to add information to the field of research in private self-reflection. For this purpose, two questionnaires will be utilised: the Self-Reflection and Insight Scale (SRIS; Grant et al., 2002) and the Big Five Inventory-2 (BFI-2; Soto & John, 2017). The investigation will also include six possible moderators to the relation in question, for which specific items are added to the questionnaire. These are: age, educational background, emotional disclosure, sexual orientation, the utilisation of psychotherapeutic support or counselling, and the occurrence of a major life event. Based on theoretical assumptions and available data, the following hypotheses are proposed (see also visualised in Figure 1):

H1: Openness positively predicts the need for (NSR), engagement in (ESR), and insight (ISR) from self-reflection.

H2: Conscientiousness negatively predicts NSR and ESR but positively predicts ISR.

H3: Extraversion positively predicts ESR.

H4: Agreeableness weakly supports ESR.

H5: Neuroticism positively predicts NSR but negatively predicts ISR.

H6: The relationship between the Big Five traits and the subdimensions of self-reflection (especially ESR and ISR) is positively moderated by age.

H7: Educational background moderates the link between personality traits and all self-reflection subdimensions, such that higher education enhances this relationship.

H8: Sexual orientation moderates the personality–self-reflection link, especially regarding NSR and ESR.

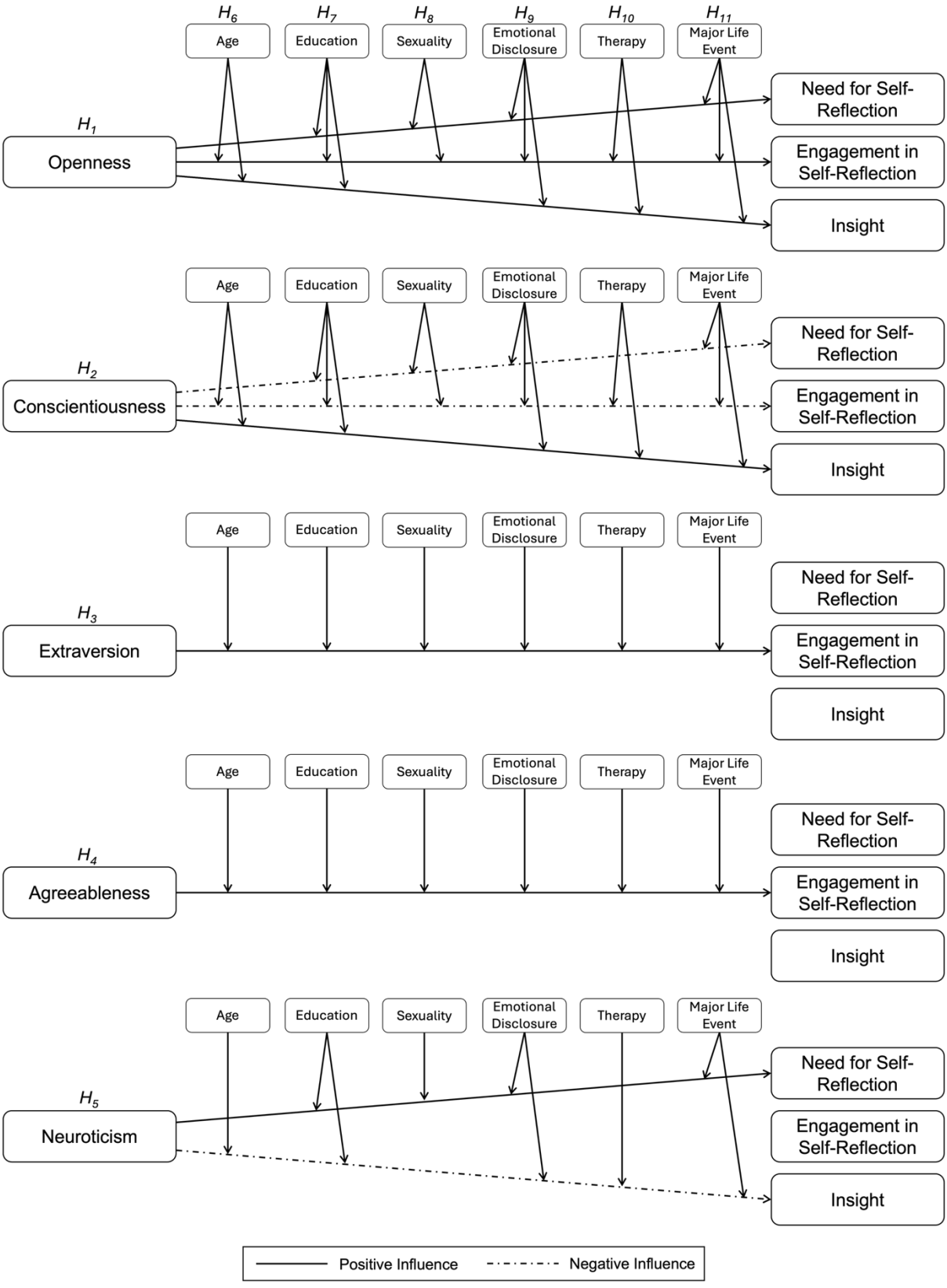
H9: Emotional disclosure positively moderates the association between personality traits and all self-reflection subdimensions.

H10: Therapeutic care moderates the link between personality traits and ESR and ISR.

H11: The occurrence of major life events moderates the relationship between personality and all self-reflection subdimensions.

Figure 1

Hypothesised Model of the Personality–Self-Reflection Relationship and its Moderators



Method

Participants

A total of 158 individuals participated in the study, varying in age, country of origin, gender, sexuality, employment status, and level of education. Detailed sample information is given in Table 1. Participants came from 30 different countries; most were from Germany (N = 108). The remaining participants represented a broad international sample, including countries across Europe, Asia, and the Americas (e.g., the Netherlands, the UK, India, Japan, Brazil, Canada, the Philippines, and Sweden). Participants were recruited by word of mouth, through announcements in conversations or private messages to friends, acquaintances and study groups, and volunteered to take part. This snowball sampling method was used to quickly obtain data from a sample that was close to the general population. Yet, this network of young, middle-aged and older adults does not represent the general public of the largest country of origin in the data, as can be seen in the comparison of the sample with the German population in Table 1 (Statistisches Bundesamt (Destatis), 2025). Overall, the German population was overrepresented, resulting in a potential bias towards German culture and values. The study was ethically approved by the Ethics Committee of the University of Twente.

Table 1

Demographic Characteristics of the Sample and Comparison with the German Public

Characteristic	Category	n	%	German public in %
Gender	Female	104	65.8%	50.7%†
	Male	51	32.3%	49.3%†
	Non-binary	3	1.9%	-
Age	Mean (SD)	-	32.4 (15.6)	44.8†
	Range	-	18–92	0–113†
Country of Origin	Germany	108	68.4%	-
	Other countries	50	31.6%	-
Sexual Orientation††	Heterosexual	127	80.4%	84%†††
	LGBTQ+	29	18.4%	16%†††
Employment Status	Student	69	43.7%	3.4%†
	Employed	71	44.9%	56.6%†
	Retired	11	7.0%	26.4%†
	Other	7	4.4%	-
Education Level	Primary or less	11	7.0%	25.6%†
	Secondary/Vocational	37	23.4%	55.9%†
	Some/Completed University	75	47.5%	2.6%†
	Graduate degree	32	20.3%	15.9%†
Marital Status††††	Never married	108	68.4%	32.5%†
	Married	34	21.5%	50.4%†
	Divorced/Separated/Widowed	12	7.6%	17.1%†

Note. Total $N = 158$

†Data are taken from the Statistisches Bundesamt (Destatis) (2025).

††Two participants preferred not to disclose their sexuality (1.2%).

†††Data are taken from a study about sexual behaviour in Germany (Haversath et al., 2017).

††††Four participants preferred not to disclose their marital status (2.5%).

Materials

Online Survey

Demographics. The first part of the questionnaire was administered to gather demographic information. The questionnaire comprised seven inquiries on age, gender, country of origin, sexuality, employment, level of education, and marital status. In addition to these inquiries, it incorporated a small series of binary questions exploring the other possible moderator subjects (the full survey can be accessed via the link provided in Appendix A). Both educational background and sexual orientation were queried with items where participants could choose their answers from a given list. Emotional disclosure, the utilisation of psychotherapeutic support or counselling, and the occurrence of a major life event were posed as Yes/No questions, e.g., “Have you ever experienced a highly stressful life event, for example, a serious accident, physical assault, sudden loss of a loved one, or a life-threatening illness?” The latter question was introduced based on an arrangement from items of the *Life Events Checklist for DSM-5 (LEC-5)* by Weathers et al. (2013). A copy of the LEC-5 can be found in Figure A1 in Appendix A.

The Big Five Inventory-2 (BFI-2). The BFI-2 by Soto and John (2017) was the second part of the survey and assesses personality based on the Big Five personality traits (Goldberg, 1992). The BFI-2 is considered a reliable instrument for measuring personality (Husain et al., 2025). It comprises 60 items and uses a five-point Likert scale ranging from “Strongly disagree” to “Strongly agree”. In this study, five traits were measured, each with twelve items. These were Openness to Experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). An example for each trait is: “I am someone who is curious about many different things” (O), “I am someone who is dependable, steady” (C), “I am someone who is outgoing, sociable” (E), “I am someone who is compassionate, has a soft heart” (A), and “I am someone who can be tense” (N). The internal consistency reliability was found to be acceptable with a Cronbach’s alpha of .76 and has been validated across cultures and languages (Jovanović & Šakan, 2024; Lignier et al., 2025; Smederevac et

al., 2024; Wiechers & Kandler, 2025). The applied questionnaire can be examined in Figure A2 in Appendix A.

The Self-Reflection and Insight Scale (SRIS). The SRIS developed by Grant et al. (2002) was utilised as a third questionnaire to measure three aspects of self-reflection. The questionnaire contains 20 five-point Likert scale items ranging from "Strongly disagree" (1) to "Strongly agree" (5). The SRIS measures three subdimensions with a differing number of items: Engagement in Self-Reflection (ESR) with six items, Need for Self-Reflection (NSR) with six items, and Insight (ISR) with eight items. Example items are: "I frequently examine my feelings" (ESR), "It is important for me to evaluate the things I do" (NSR), and "I usually know why I feel the way I do" (ISR).

In line with earlier research (Banner et al., 2024; Roberts & Stark, 2008; Silvia et al., 2023), the scale exhibited good internal reliability (Cronbach's alpha = .87) and has been validated across diverse cultural and linguistic backgrounds, extending beyond English-speaking populations. This includes validation in Persian (Naeimi et al., 2019), Turkish (Aşkun & Çetin, 2017), and Chinese (Chen et al., 2016), with minimal adaptations, to name a few studies. The original questionnaire is presented in Figure A3 in Appendix A.

Design and Procedure

Data was collected in two weeks. The participants accessed the online survey via their mobile devices at any moment and from any place. The survey commenced with an information sheet that included an invitation to participate in the research, an explanation of the research purpose, information regarding the participants' rights, details of the privacy and data handling policies, and a disclaimer regarding potential risks. This was followed by a consent form. The complete information sheet and consent form are available in Appendix B.

Following the provision of consent by clicking a button, participants were prompted to provide demographic information and received three supplementary questions, which were

designed to identify potential moderators. The subsequent page presented the BFI-2. Next, the SRIS was given on a separate page. Both items of the BFI-2 and the SRIS were preceded by their original studies' short instructions. The survey concluded with a brief expression of gratitude, the researcher's contact information, and mental health support resources in case of perceived mid- and post-survey psychological distress. Participants completed the survey within a time frame of approximately 15 min.

Data Analysis

Survey Data

The data were imported from Qualtrics into RStudio. To start with the analysis, the data were cleaned. Irrelevant information the Qualtrics system provides, such as the start and end date of filling out the questionnaire, or user language, were deleted. Except for the queries about therapeutic care and the occurrence of a major life event, all items had the added requirement of 'forced response'. The packages "tidyverse" (Wickham et al., 2019), "broom" (Robinson et al., 2023), "ggplot2" (Wickham, 2016), "janitor" (Firke, 2023), "psych" (Revelle, 2023), "dplyr" (Hadley et al., 2023), and "tidyr" (Wickham et al., 2023) were loaded. The values for the reverse-scored items from the BFI-2 and the SRIS, e.g., "I don't often think about my thoughts" were adjusted.

Afterwards, the descriptive statistics for all items were computed, namely the mean, standard deviation, and frequencies. Additionally, to see if there was any one item with very atypical characteristics that might have needed more detailed exploration before analysing further, the mean, standard deviation and variance were computed separately for each item. All items were kept, as none showed extreme means, low variance, or other indicators (e.g. floor or ceiling effects) that would typically warrant exclusion (DeVallis, 2017). Finally, the total score for each participant on the subscales, as well as their mean and standard deviation were computed and appended as extra columns to the data set.

Pearson correlation coefficients were calculated to assess the relationships between the mean total scores of each personality trait and the mean outcomes of the SRIS subscales. Furthermore, three multiple linear regression models were employed to measure the relationship between the Big Five traits and the self-reflection subdimensions.

Moderation Analysis

To explore the effects of the potential moderators on the relationship between personality and self-reflection, 75 linear regression models were created and tested. Based on theoretical assumptions and available data, it was hypothesised that the aforementioned contextual and individual variables might each moderate the relationship between personality traits and self-reflection.

In each model, one of the potential moderators was included as a predictor, along with the interaction term between the moderator and personality. Three outcome variables were tested separately: NSR, ESR, and ISR. This allowed for an examination of whether the strength of the relationship between personality factors, the need for and engagement in self-reflection and insight differs depending on the presence or absence of specific moderating characteristics.

Additionally, 15 linear regression models were tested to examine the role of age as a moderator in the relationship between the Big Five and self-reflection, using NSR, ESR, and ISR as outcome variables. Based on the assumption that self-reflective aptitude may increase with age (e.g., due to life experience or accumulated wisdom), age was explored as a potential moderator.

Results

Descriptive Statistics

The computation of descriptive statistics yielded no indications of atypical relationships. In Table 2, the mean, standard deviation, and reliability for the Big Five traits and the SRIS subdimensions are illustrated.

Table 2

Descriptive Statistics and Reliability for Personality and Self-Reflection Subdimensions

Scale/Subscale	N of items	M	SD	α
Personality Traits				
Openness to Experience	12	3.83	.53	.72
Conscientiousness	12	3.57	.65	.84
Extraversion	12	3.42	.63	.81
Agreeableness	12	3.75	.47	.65
Neuroticism	12	2.92	.77	.88
Self-Reflection Scales				
NSR	6	4.00	.74	.85
ESR	6	3.78	.84	.81
ISR	8	3.44	.74	.82
Moderators				
Emotional Disclosure	1	3.54	.91	-
Therapy	1	.48	.50	-
MLE	1	.73	.45	-

Note. M = Mean; SD = Standard Deviation; α = Cronbach's alpha; NSR = Need for Self-Reflection; ESR = Engagement in Self-Reflection; ISR = Insight; MLE = Major life event. Except for Therapy and MLE which were queried binarily, all scales/subscales were measured on a five-point Likert scale.

Correlations Between the Big Five and Self-Reflection

Table 3 shows the Pearson correlations between the Big Five personality traits and the three self-reflection subdimensions. These provide a preliminary insight into the answers to hypotheses 1 to 5. Openness was positively correlated with all three self-reflection subdimensions, most strongly with NSR and ESR (H_1). Conscientiousness was positively correlated with ISR (H_2). Extraversion showed positive correlations with ESR and especially with ISR (H_3). Agreeableness was only significantly related to ISR (H_4). Finally, Neuroticism was positively related to both NSR and ESR but negatively related to ISR (H_5). Based on these correlations, H_1, H_2, H_3, and H_5 can be provisionally retained, H_4 rejected. The following regression analyses provide more detailed results.

Table 3

Pearson Correlations Between Big Five Personality Traits and Self-Reflection Subdimensions

	NSR	ESR	ISR
Openness	.35***	.39***	.19*
Conscientiousness	.09	.06	.33***
Extraversion	.13	.23**	.38***
Agreeableness	.02	.08	.29***
Neuroticism	.29***	.27***	-.34***

Note. NSR = Need for Self-Reflection; ESR = Engagement in Self-Reflection; ISR = Insight

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

Regression Results: The Big Five and Self-Reflection

Regression analyses were conducted to test the five hypotheses regarding the relationship between the Big Five traits and the self-reflection subdimensions (H_1–H_5). In line with H_1, Openness to Experience emerged as a consistent predictor across all three subdimensions: it significantly predicted NSR ($\beta = .481$, $p < .001$), ESR ($\beta = .553$, $p < .001$), and ISR ($\beta = .213$, $p < .05$). Contrary to H_2, Conscientiousness positively predicted NSR ($\beta =$

.224, $p = .013$) and ISR ($\beta = .194$, $p = .024$) but did not significantly predict ESR ($\beta = .151$, $p = .129$). The direction of its effect is contrary to the hypothesised inhibitory role on reflective need and engagement, leading to a rejection of H_2. In contrast, H_3 was supported as Extraversion significantly predicted ESR ($\beta = .265$, $p < .01$) and, additionally, ISR ($\beta = .300$, $p < .001$). As predicted in H_4, Agreeableness did not significantly predict any of the self-reflection subdimensions. Finally, H_5 received partial support: Neuroticism positively predicted NSR ($\beta = .312$, $p < .001$) and ESR ($\beta = .346$, $p < .001$), but negatively predicted ISR ($\beta = -.219$, $p = .002$), consistent with its association with reflective need but limited insight.

The Role of Demographic Moderators in Predicting Self-Reflective Tendencies

Moderation analyses were conducted to examine whether the relationships between personality traits and self-reflection were influenced by contextual and individual factors. Among the 90 tested models, three significant interaction effects emerged, all related to the outcome variable NSR (see Table 4). Specifically, the relationship between Openness and NSR was significantly moderated by age (H_6; $\beta = -.013$, $p < .001$) and educational background (H_7; $\beta = -.369$, $p < .01$). While the interaction term between Agreeableness and educational background was statistically significant ($\beta = -.315$, $p = .03$), the overall model did not reach significance, suggesting a trend of a potential moderating effect worth further investigation.

In contrast to the findings for NSR, the moderation analyses for ESR and ISR did not yield any significant interaction effects. The statistics for ESR and ISR are viewed in Table 5 and Table 6, respectively. Across all tested models, the associations between personality traits and these self-reflection subdimensions were not significantly influenced by the potential moderators. These results indicate that the personality–self-reflection link for ESR and ISR is

independent of individual background characteristics. All regression and moderation results are visualised in Figure 2.

Table 4

Moderation Analysis for the Need for Self-Reflection

Moderator	Predictor	β (Interaction)	R^2	*F*
Age	Openness	-.013***	.143	9.724***
	Conscientiousness	-.007	.021	2.144
	Extraversion	.007	.026	2.416
	Agreeableness	-.005	.001	1.038
	Neuroticism	-.001	.073	5.096**
Educational background	Openness	-.369**	.159	10.71***
	Conscientiousness	-.100	.006	1.32
	Extraversion	.025	.007	1.366
	Agreeableness	-.315*	.019	1.99
	Neuroticism	-.040	.090	6.059***
Sexual orientation	Openness	-.130	.102	6.865***
	Conscientiousness	.320	.007	1.362
	Extraversion	-.313	.015	1.764
	Agreeableness	.490	.003	1.139
	Neuroticism	-.193	.072	5.038**
Emotional disclosure	Openness	-.170	.251	18.52***
	Conscientiousness	.006	.184	12.82***
	Extraversion	.126	.190	13.3***
	Agreeableness	-.122	.188	13.12***
	Neuroticism	-.020	.224	16.09***
Therapeutic care	Openness	-.132	.142	9.624***
	Conscientiousness	.069	.034	2.864*
	Extraversion	.001	.042	3.319*
	Agreeableness	.125	.027	2.472
	Neuroticism	-.270	.110	7.197***
Major life event	Openness	.120	.121	8.173***
	Conscientiousness	.033	.005	1.26
	Extraversion	.089	.014	1.756
	Agreeableness	.292	.004	1.217
	Neuroticism	-.241	.089	6.113***

Note. R^2 = Adjusted R-squared

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

Table 5

Moderation Analysis for Engagement in Self-Reflection

Moderator	Predictor	β (Interaction)	R^2	*F*
Age	Openness	-.006	.166	11.41***
	Conscientiousness	-.012	.039	3.108*
	Extraversion	-.004	.069	4.85**
	Agreeableness	-.008	.023	2.206
	Neuroticism	-.002	.071	4.982**
Educational background	Openness	-.280	.159	10.72***
	Conscientiousness	-.136	.017	.856
	Extraversion	-.185	.044	3.345*
	Agreeableness	-.240	.001	1.066
	Neuroticism	-.037	.061	4.321**
Sexual orientation	Openness	-.149	.138	9.233***
	Conscientiousness	.366	.002	1.086
	Extraversion	-.342	.045	3.419*
	Agreeableness	.346	.000	1.002
	Neuroticism	-.259	.062	4.391**
Emotional disclosure	Openness	-.204	.327	26.37***
	Conscientiousness	-.017	.241	17.62***
	Extraversion	.062	.247	18.17***
	Agreeableness	-.089	.243	17.77***
	Neuroticism	-.053	.273	20.6***
Therapeutic care	Openness	-.188	.163	11.22***
	Conscientiousness	-.124	.019	1.995
	Extraversion	-.097	.063	4.519**
	Agreeableness	-.201	.022	2.156
	Neuroticism	-.176	.074	5.177**
Major life event	Openness	.091	.168	11.55***
	Conscientiousness	.128	.017	1.905
	Extraversion	-.147	.061	4.415*
	Agreeableness	-.027	.019	2.025
	Neuroticism	-.232	.088	6.058***

Note. R^2 = Adjusted R-squared

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

Table 6

Moderation Analysis for Insight

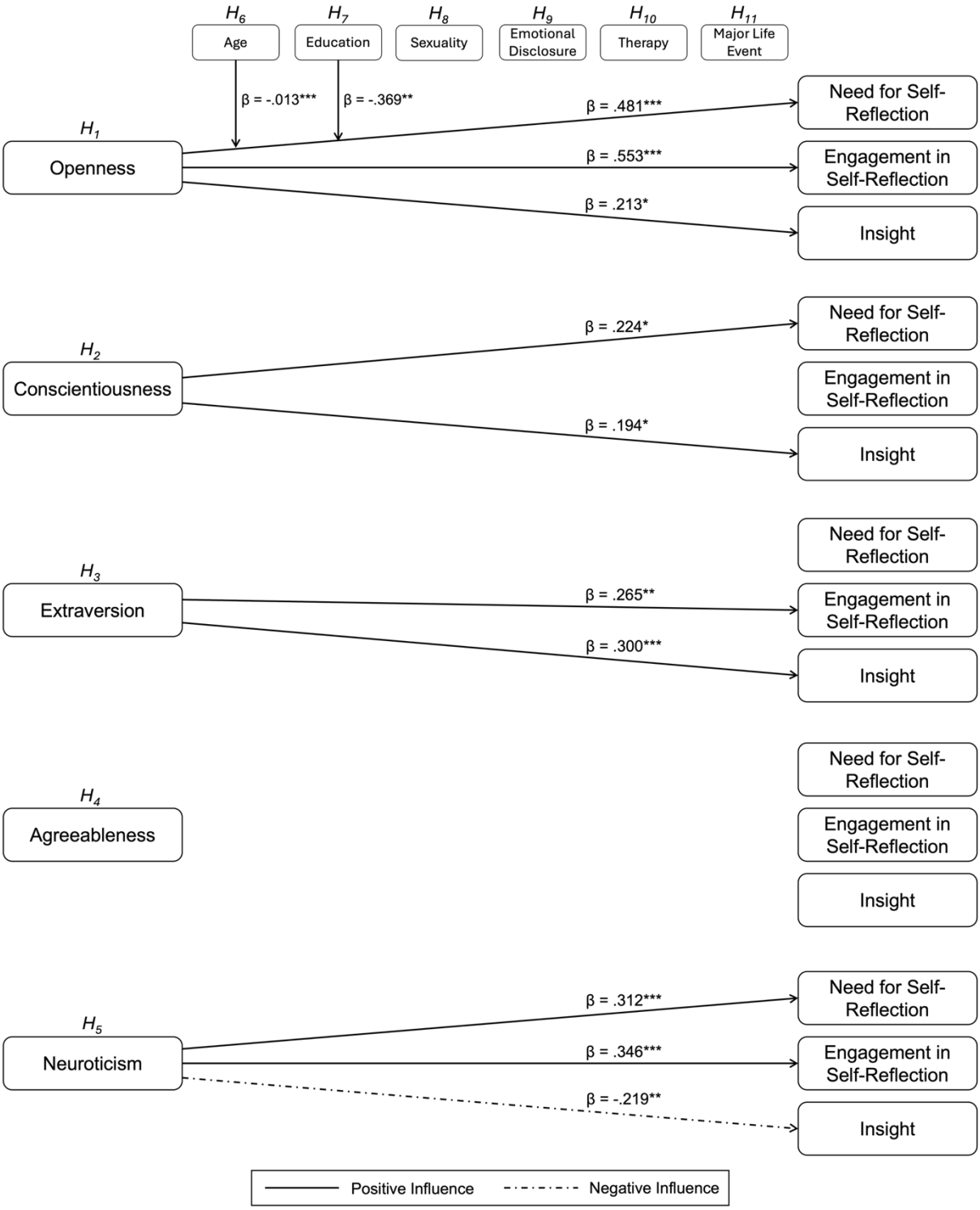
Moderator	Predictor	β (Interaction)	R^2	*F*
Age	Openness	.005	.027	2.477
	Conscientiousness	.000	.090	6.195***
	Extraversion	-.001	.128	8.667***
	Agreeableness	.011	.083	5.743***
	Neuroticism	-.006	.115	7.817***
Educational background	Openness	.135	.031	2.662
	Conscientiousness	-.064	.101	6.799***
	Extraversion	.028	.111	7.417***
	Agreeableness	.093	.074	5.109**
	Neuroticism	-.049	.105	7.004***
Sexual orientation	Openness	-.001	.020	2.071
	Conscientiousness	.018	.090	6.131***
	Extraversion	-.056	.127	8.527***
	Agreeableness	.131	.071	4.95**
	Neuroticism	.329	.119	7.996***
Emotional disclosure	Openness	-.002	.060	4.32*
	Conscientiousness	.060	.142	9.655***
	Extraversion	.124	.153	10.46***
	Agreeableness	.010	.107	7.272***
	Neuroticism	-.025	.204	14.37***
Therapeutic care	Openness	-.305	.031	2.66
	Conscientiousness	-.102	.093	6.389***
	Extraversion	.076	.129	8.726***
	Agreeableness	-.034	.067	4.748**
	Neuroticism	.147	.109	7.368***
Major life event	Openness	.095	.022	2.176
	Conscientiousness	.086	.095	6.463***
	Extraversion	-.154	.131	8.868***
	Agreeableness	.048	.069	4.874**
	Neuroticism	-.131	.110	7.441***

Note. R^2 = Adjusted R-squared

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

Figure 2

Found Model of the Personality–Self-Reflection Relationship and its Moderators



Note. The regression and moderation coefficients are presented as β.

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

While the analysed moderators did not exert a robust significant influence on the personality–self-reflection link, some demonstrated a direct effect in predicting self-reflection subdimensions. The respective regression coefficients are delineated in Table 7.

Table 7

Direct Regression Coefficients of Moderators and Self-Reflection Subdimensions

	NSR	ESR	ISR
Age	-.006	-.009*	.004
Emotional Disclosure	.361***	.468***	.199**
Therapy	.310**	.300**	-.04
Major Life Event	.203	.326*	.096

Note. NSR = Need for Self-Reflection; ESR = Engagement in Self-Reflection; ISR = Insight. The table exclusively displays the analyses' significant results and their non-significant counterparts. Non-significant outcomes, for example concerning sexual orientation, were omitted from the visualisation.

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

Discussion

This study investigated the relationship between the Big Five personality traits (Goldberg, 1992) and the subdimensions of self-reflection (Grant et al., 2002). Four out of five hypotheses on the primary relationship were supported. Openness was consistently linked to all three self-reflective subdimensions, affirming earlier research. Contrary to the hypothesis that Conscientiousness would impede NSR and ESR in open-ended self-reflection and enhance insight through structured, goal-oriented self-reflection, Conscientiousness does indeed correlate with insight, but also positively predicts NSR. Extraversion predicted ESR and ISR, but not NSR, suggesting a role in socially driven self-reflection, externally prompted by others. In accordance with the discussed literature, Agreeableness predicted neither of the self-reflection subdimensions; however, it did demonstrate a correlation with insight, thereby suggesting an alternative potential association. Finally, Neuroticism was positively linked to NSR and ESR, but negatively to ISR.

Accounting for contextual factors interacting in these relations, the analyses of six moderators revealed that age and educational background significantly influence the relationship between Openness and NSR. No significant moderation for either ESR or ISR was identified, suggesting that these aspects may be less context-sensitive.

The present study posits that personality, in particular Openness and Neuroticism, exerts an influence on self-reflective tendencies. Based on positive moderation effects, it is further possible that contextual factors, such as age and educational background, while capable of eliciting occasional alterations to this relationship, do so only infrequently.

Interpreting the Self-Reflective Dispositions of the Big Five

The findings of this study indicate that individuals who exhibit high scores on Openness to Experience, characterised by their ability to adapt well to new experiences and think creatively (Elom et al., 2024), demonstrate a tendency towards self-reflection and

introspection. Its positive prediction of NSR, ESR, and insight may be indicative of a more profound understanding of one's emotional life. This finding aligns with previous research linking Openness to tolerance of ambiguity (Gärtner et al., 2024), divergent thinking, and reflective capacity (Kostenko, 2015; Rodgers, 2002). It also supports the idea that self-reflection draws on curiosity and intellectual openness. This trait appears to foster all three subdimensions of self-reflection: need, engagement and insight. This suggests that individuals who are high in Openness have both the motivation and cognitive flexibility to sustain deep reflective thought. Consequently, their self-reflections are likely to be internally driven and psychologically adaptive, providing a foundation for emotional growth and self-understanding.

Conscientious individuals were found to have a greater need for self-reflection and demonstrate increased insight, yet they do not appear to engage in self-reflection. These findings for Conscientiousness, which might be contradictory to logical reasoning, stimulate consideration of the actual benefit of self-reflective action. While earlier findings suggest that Conscientiousness may inhibit spontaneous or open-ended self-reflection (as in NCC) (Gärtner et al., 2024), it may simultaneously promote structured or goal-directed forms of self-reflection (Weng et al., 2024). This study showed that it was evident in this study that it indeed fosters insight but without actual correlations with self-reflective action. This prompts the question of how highly conscientious individuals might gain psychological insight without engaging in self-reflection. One explanation could be that individuals who score high on Conscientiousness may adhere to a philosophy of life that derives insight through unconscious contemplative patterns, thereby resulting in a lack of self-reflection scores due to its involuntary nature. Likewise, conscientious people may value doing over contemplation, as evidenced by their goal-directed attitude (Chen & Wang, 2024; Mreydem et al., 2025), striving for achievement and consistency (Yu et al., 2024). They may gain insight through

action, such as adjusting strategies based on what works or fails, rather than through internal, introspective processes. In this sense, this might suggest that their insight is more pragmatic and behavioural than self-reflective, as measured by self-report. Furthermore, conscientious individuals may, for example, not recognise goal-setting, journaling or post-task evaluations as forms of self-reflection – behaviours that might be perceived by others as reflective conduct. Consequently, they may underreport reflective activity, even when it guides their actions effectively.

The relationship between Extraversion and self-reflection might be described as situationally reactive rather than habitually initiated. Much like an extravert may not plan for a quiet evening but end up in one by circumstance, their self-reflection appears to arise less from an internal urge than from social interaction or feedback. This assertion is supported by the significant predictive capacity of Extraversion concerning engagement in self-reflection and insight, but not with regard to the need for reflection. Such individuals are not incapable of self-reflection; rather, they may be more likely to do so once prompted by others or as a response to interpersonal cues. In this sense, self-reflection becomes less of a solitary exercise and more of a post-social processing task, activated not by stillness but by stimulus. Specifically, the positive association with engaging in self-reflection and gaining insight, rather than the need for it, may suggest that self-reflection is triggered by external rather than internal factors. In short, social feedback could activate self-reflection in extraverts, whereas the need may not be felt internally. This aligns with their enthusiastic and assertive disposition (Yu et al., 2024). It also supports the notion suggested by Blevins et al. (2022) that the less extraverted a person is, the more introverted they are, and the more self-reflective they will be.

Just like this research, the limited scientific literature on Agreeableness and self-reflection preceding this study shows no predictive relationships either (Burak & Atabek,

2023; Safarie & Tarlani-Aliabadi, 2014). As agreeable individuals prioritise social harmony and adherence to social norms (Wilmot & Ones, 2022) and cooperation (Feng et al., 2024), their friendly and affable nature may prevent them from questioning circumstances and instead lead them to accept them to maintain harmony. One might ask whether highly agreeable people are too conformist or adaptable towards others and therefore indifferent to self-reflection. Interestingly, Agreeableness does correlate with insight; however, the direction of the relationship remains unclear. This correlation may reflect the interpersonal sensitivity and adaptive understanding that agreeable individuals develop through social feedback and emotional attunement (Jovanović & Šakan, 2024), rather than through deliberate self-reflection.

The findings for Neuroticism confirm the "double-edged" interpretation, whereby self-reflection driven by emotional imbalance fosters NSR and ESR, but may be impaired by maladaptive rumination, leading to less insight. Their perfectionistic tendencies, overthinking and striving for standards that are ultimately unattainable (Bien et al., 2024) may result in a search for solutions that is so constrained that the answers that are within reach remain invisible. They may find themselves in a room with subdued lighting, their thoughts preoccupied with the reasons for the darkness rather than the actions required to dispel it. This pattern matches the literature on Neuroticism's dual role in self-reflection versus insight (Kostenko, 2015), wherein emotionally labile individuals are predisposed to engage in rumination or knotted introspection – forms of quasi-reflection that Leontiev and Osin (2014) classify as "bad" or non-productive. For these individuals, self-reflection may primarily serve as an emotional outlet rather than a clarifying process, creating a cognitively active yet stagnant state where insight is displaced by self-concern.

Contextual Sensitivity and the Limits of Moderation

Concerning Openness, age and education may particularly shape the motivation to reflect (NSR), but not the quality (ISR) or behaviour (ESR) of self-reflection. In this regard, the need for self-reflection among open-minded individuals declines with age. This prompts the question of whether the open-minded elderly have already accumulated sufficient wisdom in their lives to the extent that self-reflection appears superfluous (Glück & Weststrate, 2022; Grossmann et al., 2013). It is also conceivable that self-reflection becomes more automatic or internalised with age, becoming less driven by conscious motivation and more by habit (Gardner, 2015; Gardner et al., 2022) or life perspective. This could explain why the need for self-reflection is reported as lower alongside continued engagement and insight.

Similarly to age, the negative moderating effect of educational background on high scorers in Openness may be understood as the result of internalised self-reflective habits acquired through repeated academic practice. Within higher education, reflection is not merely encouraged but expected; students are trained to monitor, optimise, and refine their thinking (Tight, 2024). Over time, this sustained exposure may lead to a degree of automatism – reflection becomes so embedded in one's cognitive routine that the conscious need for it fades into the background (Gardner & Lally, 2023). Once a certain level of reflective fluency is achieved, its novelty may diminish, as might the felt urgency to engage in it deliberately. Moreover, academic reflection often follows a structured, outcome-oriented logic. It may therefore diverge from the kind of spontaneous, inwardly driven contemplation that the construct of NSR seeks to capture – leaving such reflective activity underreported, not absent, as its habitual nature may render it less consciously accessible and thus less likely to be acknowledged in self-report.

The lack of moderation for subdimensions such as ESR and ISR could be indicative of these being more trait-bound or resistant to context. In the absence of the effects of the other moderators, it is conceivable that constructs such as therapy, emotional disclosure, and

major life events are too complex for binary measures. Nevertheless, their conceptual pertinence endures, notwithstanding their statistical insignificance. Future research in this area might benefit from the employment of more differentiated, continuous, or qualitative measures that can better capture the variability and depth of these constructs.

Implications for Education, Counselling, and Personality Psychology

Self-reflection is a skill with the potential to engender improvements in a variety of life domains, thereby fostering subjective well-being (Li et al., 2021). It follows that individuals should be cognisant of this tendency and endeavour to incorporate self-reflective practices into their quotidian activities. Such reflection, when incorporated into the routine, becomes a pattern that merits awareness and cultivation. The implications of the results may extend beyond the scope of the current study to areas such as education, counselling, personality psychology, as well as private self-help.

The findings of the different influences on self-reflection, which may be determined by one's personality composition, suggest that within education, self-reflection should be approached not as a one-size-fits-all intervention, but as a practice that benefits from differentiation. Self-reflective tasks can be designed to align with students' dispositional tendencies. For instance, open-ended formats can be offered to those high in Openness, while more structured, scaffolded exercises can be provided for those less inclined to engage in spontaneous self-reflection. Given the tendency of students who are high in Neuroticism to engage in emotionally charged yet unproductive forms of self-reflection, educators may wish to incorporate emotionally supportive self-reflection formats that foster insight over rumination. Furthermore, the cultivation of students' capacity for meta-reflection (the ability to reflect on the nature and quality of their reflective thinking) could facilitate the discernment between beneficial self-reflection and cycles of self-doubt or speculative overthinking. As can be argued with the negative moderation effects of age and educational

background found in this study, the significance of integrating reflective practice at the outset of the educational journey should not be underestimated, as it has the potential to become deeply entrenched and habitual over time (Gardner & Lally, 2023), thereby facilitating long-term psychological development. Briefly, while the utilisation of peer feedback and collaborative reflection can prove advantageous, educators must remain cognisant of personality traits such as Introversion or low Agreeableness, which may influence the extent to which students feel secure and at ease when engaging with others. In such cases, the provision of parallel individual self-reflection formats may ensure inclusivity without compromising depth.

In a manner analogous to educational settings, personality assessments could inform the type of self-reflective strategies employed in counselling and coaching. For instance, structured tools could be utilised for conscientious clients, while emotion-focused strategies could be employed for rather emotional labile clients. This study's findings reinforce the importance of recognising clients' trait-based limits or facilitators of self-reflection. Consequently, implementing trait-informed approaches has the potential to improve the therapeutic relationship by fostering a deeper understanding of the client's internal world. These approaches may also help to clarify previous difficulties related to insight or behavioural change, guiding the therapist towards more appropriate interventions. At the same time, trait-based strategies should not be applied rigidly. This is because personality encompasses more than just traits, extending beyond the Big Five and self-reports (Rauthmann, 2024). These strategies serve best as flexible heuristics, complemented by sensitivity to the client's context and evolving needs. The integration of trait awareness into psychoeducation has the potential to further support clients in developing self-understanding and ownership over their self-reflective process.

The findings of this study moreover carry implications for both personality psychology and the development of self-reflective practice. From a personality perspective, they underscore the importance of differentiating between the subdimensions of self-reflection rather than treating reflection as a unidimensional construct (Grant et al., 2002). This distinction allows for a more precise understanding of how traits such as Openness or Neuroticism differentially influence self-reflective tendencies. In doing so, the study contributes to a more nuanced view of how personality interacts with specific cognitive-emotional processes, supporting the idea that such interactions are domain-specific and not uniformly distributed across self-reflective behaviours (Leontiev & Osin, 2014). From a practical standpoint, particularly within the context of self-reflection training, the results suggest that fostering self-reflective competence involves more than merely teaching techniques or providing prompts but rather serving personalised action plans. Such plans might draw on strategies informed by personality types. For example, they could offer open-ended tasks to foster curiosity in open individuals or frame self-reflection in structured, goal-oriented terms for conscientious individuals. Rather than prescribing fixed techniques, these plans would adapt to individual tendencies, encouraging self-reflective engagement that feels accessible and sustainable. Furthermore, it may be necessary to identify and address personality-based supports or barriers, such as impulsivity, emotional reactivity, or habitual goal-orientation, that influence how individuals approach self-reflection in the first place (Rogers, 2001; Weng et al., 2024). A trait-sensitive approach to self-reflective training could therefore offer a more individualised and psychologically informed pathway towards developing self-reflective habits.

Limitations and Future Research

The correlational design of this study limits the ability to make causal interpretations. While discrepancies between younger and older individuals in different age groups were

observed, there may be a generational bias. A longitudinal study could yield data on which came first: the score on a personality trait or self-reflective aptitude. This would enable the observation of changes in an individual's personality resulting from self-reflective training over a period of years. Assuming the hypothesis that personality is a relatively stable concept (Goldstein et al., 2022), it is unlikely that self-reflection would influence someone's personality to the extent that it would be reflected in a personality test. The question arises as to what extent and for how long an individual must engage in self-reflection before a personality change becomes evident. Moreover, where would a person even derive their motivation from, if their underlying personality was, by nature, non-reflective? Nevertheless, other research indicates personality to be malleable over the lifespan and changeable (Bleidorn et al., 2021) – perhaps through recurrent self-reflective practice? It is noteworthy that the correlations between the Big Five traits and the self-reflection dimensions scarcely approach $r = 0.4$. Furthermore, the absence of a perfect correlation coefficient indicates that additional factors must be considered when assessing an individual's self-reflective ability. If this were indeed the case, the capacity to enhance one's self-reflection would be entirely contingent on one's personality. Other factors must also be considered when attempting to explain the propensity towards self-reflection and the acquisition of insight into emotional matters.

The possibility that participants might respond in a manner that aligns with their desired public image, a phenomenon referred to as social desirability bias (Alexander et al., 2025; Grimm, 2010), warrants consideration, particularly in the context of self-reflection and emotional disclosure. These concerns apply to both the BFI-2 and the SRIS. This also further raises the question of whether one needs to be a reflective thinker to truthfully and reliably complete a questionnaire about self-reflection. Consequently, subjective evaluations of traits and behaviours may not reflect someone's actual practice.

The simplified querying of moderators, such as therapeutic care or the occurrence of a major life event, may not capture its nuances. In particular, the use of binary or broad measures has the capacity to compromise the essential data necessary for the formulation of inferences, which is vital to the scientific process, especially in psychology (Gruijters, 2022). Future studies should, for example, include scales for therapy and emotional disclosure depth, or major life event impact.

While the sample had an international scope, it was not balanced demographically across age groups, educational levels or gender identity categories. Although snowball sampling was pragmatic, it yielded a sample that was disproportionately young, highly educated, female, and unmarried, characteristics that deviate from population-level distributions. Furthermore, the sample could largely be classified as WEIRD (Western, Educated, Industrialised, Rich, and Democratic; Henrich et al., 2010), raising questions about the generalisability of the findings across cultures. Uneven group sizes within key subgroups, such as those identifying as LGBTQ+, may also have limited the statistical power to detect moderation effects. Consequently, while the study offers valuable insights into the interaction between personality and self-reflection, these findings should be interpreted with caution when generalising to more diverse or less-represented populations.

On another note, personality comprises multiple traits that support and interact with each other. Consequently, analysing a personality trait in isolation is a very theory-based approach that is less applicable to real-world scenarios, as no individual personifies a single personality trait. Also, personality is merely one of the numerous conceptual determinants of self-reflection. More specifically, the findings of this study demonstrate the direct impacts of individual or contextual factors on self-reflection, including therapeutic experience, significant life events, and emotional disclosure. While these factors were examined as

moderators in this study, their potential as independent research subjects merits further consideration.

It is suggested that further investigation be given to the following notions: firstly, how specific trait facets relate with, or drive, self-reflection subdimensions more precisely, for example, “Intellect” versus “Openness to Aesthetics”, or “Anxiety” versus “Depression”. This approach would yield a more nuanced portrait of personality and self-reflective aptitude. Secondly, if personality is subject to change over time, how does this phenomenon relate to the process of self-reflection? The attainment of such results could be facilitated by the implementation of a longitudinal design. Thirdly, it may be beneficial to ascertain the extent to which other moderators relate to self-reflection. Furthermore, the expression of emotions in words was covered in this study by the concept of emotional disclosure. Comparable predictors, including the practice of journaling (Grant et al., 2002) and emotional or expressive writing in general (Anderson, 2004; Gripsrud et al., 2016; Pennebaker, 1997, 2018), have provided evidence to suggest that these activities may contribute to the development of self-reflective skills. As demonstrated by Grant et al. (2002), the utilisation of journaling as a tool to facilitate self-reflection was found to be more efficacious on a quantitative basis. Accordingly, journal keepers engaged more in self-reflection. However, this method was not found to be conducive to the acquisition of increased insight on a qualitative level, making insight appear as a more distinct concept.

Altogether, these suggestions aim to deepen the understanding of how personality interacts with the reflective mind, not merely as a stable disposition but as a dynamic and potentially trainable psychological process.

Conclusion

This study suggests that the path to self-reflection is not paved in uniform stone but shaped by the subtle curves and textures of personality. Traits such as Openness,

Extraversion, and Neuroticism appear to influence not only whether individuals reflect, but how, and to what end. By disentangling the distinct layers of self-reflection, its need, its engagement, and its yield in insight, this research contributes to a more differentiated understanding of how inner awareness is shaped. While personality sets the stage, it does not dictate the script. Self-reflection, it seems, is neither fixed nor fully free, but moves within the tension between predisposition and practice. By recognising this, educators, therapists, and researchers may be encouraged to treat self-reflection not as a universal tool, but as a personalised process. The findings leave the door open to future enquiry into the ways our traits shape and are shaped by the stories we tell ourselves.

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Appendix A

Link to Online Questionnaire

The online questionnaire was distributed via Qualtrics. A preview version can be viewed here: https://qfreeaccountssjc1.pdx1.qualtrics.com/jfe8/preview/previewId/23229c1f-d547-4c26-9242-6d0d8f6a05c8/SV_5oToyGcGlcQQkfA?Q_CHL=preview&Q_SurveyVersionID=current

Figure A1

Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013)

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience						

Figure A2

The Big Five Inventory-2 (BFI-2; Soto & John, 2017)

Appendix

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others?* Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1 Disagree strongly	**2** Disagree a little	**3** Neutral; no opinion	**4** Agree a little	**5** Agree strongly

I am someone who...

1. ___ Is outgoing, sociable.
2. ___ Is compassionate, has a soft heart.
3. ___ Tends to be disorganized.
4. ___ Is relaxed, handles stress well.
5. ___ Has few artistic interests.
6. ___ Has an assertive personality.
7. ___ Is respectful, treats others with respect.
8. ___ Tends to be lazy.
9. ___ Stays optimistic after experiencing a setback.
10. ___ Is curious about many different things.
11. ___ Rarely feels excited or eager.
12. ___ Tends to find fault with others.
13. ___ Is dependable, steady.
14. ___ Is moody, has up and down mood swings.
15. ___ Is inventive, finds clever ways to do things.
16. ___ Tends to be quiet.
17. ___ Feels little sympathy for others.
18. ___ Is systematic, likes to keep things in order.
19. ___ Can be tense.
20. ___ Is fascinated by art, music, or literature.
21. ___ Is dominant, acts as a leader.
22. ___ Starts arguments with others.
23. ___ Has difficulty getting started on tasks.
24. ___ Feels secure, comfortable with self.
25. ___ Avoids intellectual, philosophical discussions.
26. ___ Is less active than other people.
27. ___ Has a forgiving nature.
28. ___ Can be somewhat careless.
29. ___ Is emotionally stable, not easily upset.
30. ___ Has little creativity.
31. ___ Is sometimes shy, introverted.
32. ___ Is helpful and unselfish with others.
33. ___ Keeps things neat and tidy.
34. ___ Worries a lot.
35. ___ Values art and beauty.
36. ___ Finds it hard to influence people.
37. ___ Is sometimes rude to others.
38. ___ Is efficient, gets things done.
39. ___ Often feels sad.
40. ___ Is complex, a deep thinker.
41. ___ Is full of energy.
42. ___ Is suspicious of others' intentions.
43. ___ Is reliable, can always be counted on.
44. ___ Keeps their emotions under control.
45. ___ Has difficulty imagining things.
46. ___ Is talkative.
47. ___ Can be cold and uncaring.
48. ___ Leaves a mess, doesn't clean up.
49. ___ Rarely feels anxious or afraid.
50. ___ Thinks poetry and plays are boring.
51. ___ Prefers to have others take charge.
52. ___ Is polite, courteous to others.
53. ___ Is persistent, works until the task is finished.
54. ___ Tends to feel depressed, blue.
55. ___ Has little interest in abstract ideas.
56. ___ Shows a lot of enthusiasm.
57. ___ Assumes the best about people.
58. ___ Sometimes behaves irresponsibly.
59. ___ Is temperamental, gets emotional easily.
60. ___ Is original, comes up with new ideas.

Please check: Did you write a number in front of each statement?

Figure A3

Self-Reflection and Insight Scale (SRIS; Grant et al., 2002)

Self-reflection and Insight Scale

(Factors, reverse scoring and scoring instructions shown)

Please read the following questions and circle the response that indicates the degree to which you agree or disagree with each of the statements. Try to be accurate, but work quite quickly. Do not spend too much time on any question

THERE ARE NO "WRONG" OR "RIGHT" ANSWERS – ONLY YOUR OWN PERSONAL PERSPECTIVE

BE SURE TO ANSWER EVERY QUESTION ONLY CIRCLE ONE ANSWER FOR EACH QUESTION

1. I don't often think about my thoughts (R)	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
2. I am not really interested in analyzing my behaviour (R)	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
3. I am usually aware of my thoughts	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
4. I'm often confused about the way that I really feel about things (R)	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
5. It is important for me to evaluate the things that I do	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
6. I usually have a very clear idea about why I've behaved in a certain way	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
7. I am very interested in examining what I think about	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
8. I rarely spend time in self-reflection (R)	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
9. I'm often aware that I'm having a feeling, but I often don't quite know what it is (R)	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
10. I frequently examine my feelings	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
11. My behaviour often puzzles me (R)	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
12. It is important to me to try to understand what my feelings mean	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
13. I don't really think about why I behave in the way that I do (R)	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
14. Thinking about my thoughts makes me more confused (R)	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
15. I have a definite need to understand the way that my mind works	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
16. I frequently take time to reflect on my thoughts	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
17. Often I find it difficult to make sense of the way I feel about things (R)	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
18. It is important to me to be able to understand how my thoughts arise	(N)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
19. I often think about the way I feel about things	(E)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6
20. I usually know why I feel the way I do	(I)	Disagree Strongly 1	Disagree 2	Disagree Slightly 3	Agree Slightly 4	Agree 5	Agree Strongly 6

E = Engagement in self-reflection: N = Need for self-reflection: I = Insight: R = Reverse scored

Grant, A. M., Franklin, J., & Langford, P. (2002). The Self-reflection and Insight Scale: A new measure of private self-consciousness. Social Behavior and Personality, 30, 821-836. – *Permission is freely granted to use this scale for research and therapeutic/coaching purpose. Commercial use of this scale requires written permission from A. M .Grant. Email*: anthonyg@psych.usyd.edu.au © AM. Grant 2001

Appendix B

Information Sheet for "Personality and Self-Reflection: Investigating the Role of the Big Five in Reflective Action"

You are being invited to participate in a psychology Bachelor thesis research study titled "Personality and Self-Reflection: Investigating the Role of the Big Five in Reflective Action". This study is being done by Ben J. Adelberg from the Faculty of Behavioural, Management and Social Sciences at the University of Twente.

The purpose of this research study is to explore the relationship between personality traits and self-reflection, focusing mainly on the Big Five personality model. Therefore, you are asked to fill in two questionnaires and provide information about your demographics and certain life events. It will take you approximately 20 minutes to complete.

Some questions in this survey ask about emotionally significant life events. You may skip any question you do not wish to answer, you may stop the survey at any time without giving a reason and revoke your consent at any time. No in-depth inquiry is necessary on these topics. To the best of our ability, your answers in this study will remain confidential. Any personal information collected, such as demographics and test outcomes, will be de-identified by assigning participants a random number. The corresponding information will only be visible to and processed by the researcher and will not be shared with third parties. Additionally, the data will be encrypted and stored in the university's OneDrive storage for ten years after the study. The project has undergone review and approval by the BMS Ethics Committee/Department of Humanities and Social Sciences at the University of Twente.

Please note that there are no right or wrong answers in this questionnaire as it is not designed as a test. Our aim is to obtain genuine and accurate insights reflecting your personal attitudes and behaviours. Please respond truthfully based on your personal experiences and perspectives. Apart from demographic questions, all questions will be closed and relate to specific statements. If you are uncertain about your answer, choose the option that best represents your experience.

Study contact details for further information:
Ben J. Adelberg, b.j.adelberg@student.utwente.nl

Contact Information for Questions about Your Rights as a Research Participant
If you have questions about your rights as a research participant or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher, please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-hss@utwente.nl.

Consent Form for "Personality and Self-Reflection: Investigating the Role of the Big Five in Reflective Action"

YOU WILL BE GIVEN A COPY OF THIS INFORMED CONSENT FORM

Please tick the appropriate boxes	**Yes**	**No**
Taking part in the study		
I have read and understood the study information, or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	□	□
I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.	□	□
I understand that taking part in the study involves completing two questionnaires and providing information about my demographics and possible moderating variables (such as therapeutic care or the incidence of a major life event) in an online survey.	□	□
Risks associated with participating in the study		
I understand that taking part in the study involves the following risks: Psychological discomfort.	□	□
Use of the information in the study		
I understand that the information I provide will be used for research reports or publications.	□	□
I understand that personal information collected about me that can identify me, such as [e.g. my age and country of origin], will not be shared beyond the study team.	□	□
Future use and reuse of the information by others		
I permit the anonymised questionnaire data that I provide to be archived in the university's OneDrive storage so it can be used for future research and learning.	□	□

Appendix C

AI Statement

During the preparation of this work, the author used Grammarly, DeepL Write, ChatGPT, Microsoft Word Editor and Mendeley Reference Manager to guide the academic structure and tone of the text as well as to check for grammar and APA referencing guidelines. Having used these tools, the author reviewed and edited the content as necessary and takes full responsibility for the content of the work.