The Role of General and Situational Meaning-Making in Problem Identification and Solution Formulation

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Abstract

This study investigates the relationship between general and situational meaning-making processes and the identification of problems and solutions from an individual's perspective. The research aims to understand how these meaning-making processes influence problem perception and solution generation. Data were collected from undergraduate students using the Sentence Completion Test Integral (SCTi-MAP) to determine ego development stages and the Meaning in Life Questionnaire (MLQ) to measure the presence and search for meaning.

Structured qualitative methods were employed, and participants' responses were analysed to categorise them into different ego development stages: Conscientious, Self-Aware, Conformist, and Individualistic. The results indicated that most participants were classified in the Conscientious stage, characterised by responsible, structured thinking and self-reflection. Presence of Meaning scores ranged from 7 to 35, with an average score of 23.8, while Search for Meaning scores ranged from 5 to 35, averaging 23.9.

Higher ego development stages were associated with more sophisticated and flexible cognitive schemas for understanding and addressing life's problems. Participants at these stages demonstrated greater complexity in problem identification and solution formulation, highlighting the importance of advanced cognitive and emotional development in enhancing problem-solving abilities and resilience.

The study underscores the significance of supporting higher ego development stages to increase people's adaptability and efficacy in personal and professional settings. It recommends that future research delve into the impact of cultural and social environments on meaning-making processes and conduct long-term studies to comprehend how these processes evolve.

Keywords: meaning-making, ego development, problem-solving, resilience, cognitive schemas, emotional development, undergraduate students, Sentence Completion Test Integral, Meaning in Life Questionnaire

The Role of General and Situational Meaning-Making in Problem Identification and Solution Formulation

A psychological process known as "meaning-making" is how people understand their experiences and give them significance (Hutchinson, 2019). This intricate interaction of cognitive and affective factors influences a person's identity and behaviour (Isene et al., 2021). Understanding how individuals make meaning can provide important insights into identifying and defining personal problems and solutions. This perspective is critical in today's rapidly changing world, as adapting and finding meaning in new circumstances can significantly impact individual well-being and personal development (Merron et al., 1987).

In exploring meaning-making and problem-solving within psychological contexts, it is imperative to understand the underpinnings of ego development, particularly through the lens of post-autonomous ego development as delineated by Susanne R. Cook-Greuter (Cook-Greuter, 1999). Ego development theory, initially conceptualised by Loevinger, identifies a series of stages through which an individual's ego evolves, significantly influencing their cognitive, emotional, and interpersonal capacities. Cook-Greuter extends this framework by emphasising the post-autonomous stages of development, where individuals exhibit advanced levels of self-awareness, integration of inner experiences, and an understanding of the complexity of human behaviour.

This study leverages Cook-Greuter's model to categorise participants into various stages of ego development using the Sentence Completion Test Integral (SCTi-MAP). These stages are crucial for understanding how individuals construct meaning and navigate their environments. According to Cook-Greuter, post-autonomous development involves a stepwise, conscious deconstruction of earlier ego stages and a movement towards greater authenticity and self-transcendence. Individuals at higher stages of development are posited

to exhibit sophisticated meaning-making capabilities that allow for more nuanced interpretations and responses to life's challenges.

Meaning-making encompasses situational and general dimensions central to understanding individual behaviours and psychological processes (Park, 2013). Situational meaning-making involves interpreting specific events in a person's life, often in the context of broader existential issues or crises (Nilsson et al., 1999). This form of meaning-making is dynamic, varying with circumstances and reflecting an individual's immediate reactions to challenges or stressors (Park, 1997). Here, individuals evaluate certain events and attribute meaning to them based on their pre-existing global beliefs. This process facilitates coping and adaptation by aligning the understanding of the situation with overarching life views (Park, 1997).

On the other hand, general or global meaning-making refers to the underlying frameworks that individuals hold, encompassing their beliefs, goals, and values that guide their overall perceptions of life (Park, 2010). Schnell (2009, 2011) contributes to this understanding by outlining various sources from which people derive meaning, such as relationships, personal achievements, and philosophical or spiritual beliefs, collectively shaping one's global meaning-making framework. Similarly, Peterson (2002) explores how cultural narratives and personal ideologies contribute to a structured sense of meaning that influences how events are interpreted and responded to across different contexts. These aspects illustrate how meaning-making is a crucial psychological process enabling individuals to navigate and derive significance from their life experiences.

The emotional aspects of meaning-making are intricately linked to how people perceive and understand the complexity of life. Emotions are significant when giving meaning to events and how those meanings affect psychological health. For example, Kring et al. (2024) emphasise how meaningful activities—particularly those focused on assisting

others—give people a sense of purpose and promote emotional well-being by strengthening their sense of self-efficacy and connectedness. Similarly, Merron et al. (1987) explore how personal developmental stages impact emotional responses to challenges, affecting the ability to engage in transformative meaning-making that promotes personal growth. The emotional foundations of meaning-making are also examined by Peterson (2002), who points out how existential and ideological ideas affect emotional reactions to life experiences and the narrative framework used to create identities and worldviews.

Meaning-making as a psychological construct involves how individuals interpret experiences, assign significance, and manage life's inherent contradictions and stresses. This process significantly influences how problems are perceived, and solutions are formulated (Park, 2010). This psychological process involves interpreting experiences through a personalised framework of beliefs and values, directly affecting decision-making and stress management. For example, viewing challenging situations as opportunities for growth rather than threats can enhance creativity and resilience. Such frameworks guide immediate responses and promote long-term behavioural consistency and psychological stability. Thus, meaning-making is an active cognitive mechanism that facilitates adaptive responses to complex life events, promoting overall well-being (Shin & Kelly, 2015; Leipold & Greve, 2009).

Problem perception in meaning-making is profoundly influenced by an individual's underlying beliefs, values, and existential frameworks (Shin & Kelly, 2015). According to Merron et al. (1987), different developmental stages shape how individuals interpret challenges. Those at more advanced developmental stages tend to perceive problems not just as obstacles but as opportunities for growth and learning, demonstrating a more complex and integrated approach to meaning-making. This perspective allows them to redefine issues,

seeing them in new contexts, thus broadening the scope for potential solutions (Merron et al., 1987).

Similarly, Peterson (2002) discusses how the larger narratives and belief systems that people subscribe to (their "maps of meaning") fundamentally shape their perception of problems. These maps are not just passive repositories of information but active frameworks through which new information is filtered and understood. When individuals encounter new or challenging situations, these maps determine what aspects of the situation are perceived as relevant, threatening, or benign, directly influencing their emotional and behavioural responses (Peterson, 2002).

Once a problem is perceived through the lens of these meaning frameworks, the solution-generation process can begin. This process is deeply influenced by the individual's cognitive and emotional integration capacity. Schnell's research (2009, 2011) provides insight into how diverse sources of meaning contribute to this capacity. Individuals who draw meaning from various sources, such as personal relationships, spiritual beliefs, and personal achievements, tend to have more prosperous, more flexible cognitive schemas for understanding and addressing life's problems. This diversity enhances their resilience and enriches their problem-solving approaches, enabling them to see multiple potential solutions where others might see few (Kegan, 2009; Merron, 1987; Corona et al., 2019).

Moreover, these meaning-making processes are crucial in identifying and formulating practical solutions to perceived problems. By interpreting changes through diverse frameworks, individuals can leverage their beliefs and values to generate innovative and tailored solutions that align with their life goals. This approach mitigates resistance and fosters proactive engagement and a collaborative environment, ultimately enhancing the capacity to navigate personal transformations (Shin & Kelly, 2015).

There is a gap in understanding how cultural and social contexts shape collective meaning-making processes and how this, in turn, affects individual interpretations and reactions (Billett, 2008). Each social or cultural setting uniquely influences its members, and studying this influence could provide deeper insights into managing personal challenges more effectively (Billett, 2008).

By understanding how meaning-making influences problem identification, individuals can develop more effective personal strategies sensitive to their psychological and cultural dynamics (Van Den Heuvel et al., 2013). Insights into these processes can help foster a mindset that positively views change, enhancing adaptability and resilience. Understanding and addressing how individuals make meaning of change can lead to higher personal engagement and lower resistance, ultimately affecting well-being positively during tumultuous periods (Van Den Heuvel et al., 2020).

Focusing on situational and general meaning-making is particularly relevant when researching how individuals perceive problems because these aspects capture the full spectrum of influences on an individual's interpretive processes. Situational meaning-making allows real-time examination of how individuals interpret specific incidents and changes in their lives. It involves understanding how immediate contexts, specific events, or particular interactions during periods of change are perceived and processed (Park, 1997). This focus helps identify how variations in situational factors like communication, leadership behaviour during transitions, or peer reactions influence an individual's problem identification.

On the other hand, general meaning-making involves more profound, more stable belief systems and values that individuals bring with them into any situation (Park, 2010). This aspect explores how an individual's overarching beliefs about work, change, authority, and culture influence their perceptions of change. For example, an individual with a generally

positive belief about the benefits of technological advancements is less likely to perceive new tech implementations as a problem (Schnell, 2009; Schnell, 2011).

Therefore, this paper examines: "*How do general and situational meaning-making relate to the problem that is identified?*" This work aims to understand better how individuals perceive and respond to change. It examines which strategies for attributing meaning are used to overcome challenges. The expectation is to gain practical insights that can contribute to the more targeted adaptation of support services. The results could inspire designing more effective environments that promote adaptability and coping with change. Ultimately, the work aims to deepen the knowledge of problem identification and its influence on meaning-making strategies.

Method

Research Design

The chosen research design is a cross-sectional qualitative study.

Participants

The present study was conducted at the University of Twente and utilised a convenience sample to recruit participants. Undergraduate students from the BMS faculty who have access to the university's SONA system made up the sample. The study sample comprised individuals aged 18 to 43 years, with a concentration in the early to mid-20s. The demographic breakdown of the participants is as follows: 47.2% identified as male, 47.2% as female, and 5.6% as non-binary or third gender. The nationalities represented included Dutch (50.9%), German (29.1%), Spanish (7.27%), Russian (3.63%), and smaller groups of Italian, Latvian, Portuguese, Romanian, and Turkish nationals, each representing 1.8% of the total.

Through the university's internal credit system, SONA, participants were invited to participate and informed about the study. No particular selection criteria according to the duration of prior studies were established to guarantee a thorough understanding of the

student's experiences. Participants' consent was obtained before the start of the study, ensuring the confidentiality of their data and the voluntary nature of their participation.

Table 1

Demographic Characteristics of Participants

Demographic Characteristics	Category	Frequency	Percentage
Gender	Male	26	47.2%
	Female	26	47.2%
	Non-binary/Third Gender	3	5.6%
Nationality	Dutch	28	50.9%
	German	16	29.1%
	Spanish	4	7.27%
	Russian	2	3.63%
	Italian	1	1.81%
	Latvian	1	1.81%
	Portuguese	1	1.81%
	Romanian	1	1.81%
	Turkish	1	1.81%
Age	Mean	23.5	-
	Standard Deviation	5.5	-
	Range	18-43	-

Procedure

Ethical approval to conduct the study was first obtained from the BMS Ethics Committee. Once approval was granted, the study was published in the university's SONA system to recruit participants. Data collection occurred from May 30, 2024, to June 6, 2024. Participation in the study was voluntary. Participants received a link to a Qualtrics survey via the university's SONA website, which they could access using mobile phones, tablets, or

computers. Participants completed an informed consent form at baseline, confirming their understanding and agreement to the terms of the study. Participants were informed that all data collected would be anonymised and treated with confidentiality. The time required to complete the questionnaire was 15 to 20 minutes.

Data Collection

The collected data were initially prepared and cleaned to ensure accuracy and reliability. This involved removing any incomplete responses and checking for outliers or inconsistencies. An answer was considered incomplete if the participant did not complete the full sentence completion test, i.e. items were left unanswered. Furthermore, an answer was considered incomplete if the item was completed, but the content of the answer made no recognisable sense. The data were then analysed using R and RStudio, which provided a robust statistical analysis and visualisation platform. Specifically, the Sentence Completion Test Integral (SCTi-MAP) responses The SCT responses were scored based on the WUSC scoring guidelines, ensuring that each response was accurately classified into the appropriate developmental stage (Hy & Loevinger, 1996).

A detailed and structured approach was undertaken to analyse the SCT and MLQ datasets to ensure scientific accuracy and precision. The process for the SCT dataset involved several critical steps in determining the Total Protocol Rating (TPR) for each participant. In contrast, the MLQ dataset required calculating and interpreting scores for presence and search for meaning in life.

Materials

Questionnaire

This study employed two primary questionnaires: the Sentence Completion Test Integral (SCTi-MAP) and the Meaning in Life Questionnaire (MLQ), each serving distinct roles within the meaning-making framework. The SCTi-MAP, widely used in developmental

psychology, assesses ego development stages as defined by Loevinger and expanded by Cook-Greuter. These stages represent a sequence through which an individual's self-awareness and personal identity evolve, reflecting increasing levels of cognitive complexity, emotional maturity, and interpersonal functionality. Although the SCTi-MAP does not measure meaning-making directly, it provides crucial insights into the participant's level of ego development, influencing their capacity to make meaning from their experiences.

The MLQ, on the other hand, directly measures aspects of meaning-making by assessing the presence of meaning in an individual's life and their active search for meaning. This direct measurement is vital for understanding how participants perceive and articulate their existence and engage with life's challenges and opportunities.

In terms of methodology, participants were asked to complete sentences such as "*When I am criticised...*" and "*I am afraid of...*" using the SCTi-MAP. Responses were scored using the WUSCT scoring guidelines, categorising participants into different ego development stages: Impulsive, Self-Protective, Conformist, Self-Aware, Conscientious, and Individualistic. For instance, a defensive and emotional reaction like "*I can get angry if the criticism is unfair.*" was coded as Self-Protective. In contrast, a more reflective response, such as "*I try to understand and view the perspective of the other and then try to think of how much I can understand the criticism and what I do not agree with.*" was coded as Conscientious. This coding involved identifying the central theme, complexity, and differentiation of the vocabulary used and then matching these to the stage descriptions in the scoring manual, thus reliably classifying responses into the appropriate ego development stages.

Problem identification and solution formulation were primarily inferred from qualitative data derived from participants' responses to specific prompts in these questionnaires that relate to their experiences, challenges, and existential concerns. For

example, responses to the SCTi-MAP prompt, "*My main problem or challenge is...*" and subsequent explanations about how they address these challenges provided deep insights into the participants' problem-solving strategies. This approach allowed the study to gauge how different ego development stages and levels of meaning presence influence individuals' abilities to identify and articulate problems and formulate solutions.

Interrater Reliability of the Sentence Completion Test

To ensure the reliability and consistency of the coding in this study, interrater reliability was assessed using the Weighted Kappa statistic. The Sentence Completion Test Integral (SCTi-MAP) responses were scored independently by two raters according to the WUSCT scoring guidelines. The Weighted Kappa statistic is a robust measure that accounts for the degree of agreement between raters while considering the ordinal nature of the ratings.

The analysis yielded an overall Weighted Kappa score of 0.6656, indicating substantial agreement between the raters. This level of interrater reliability demonstrates that the raters had a high degree of consistency in their scoring, which is essential for the validity and replicability of the research findings.

This result confirms the reliability of the SCTi-MAP as a tool for assessing ego development stages, ensuring that the data collected are reliable and that the conclusions drawn from the analysis are based on consistent and objective assessments.

Internal Consistency of the MLQ

The MLQ, developed by Steger et al. in 2006, was used to measure the presence of meaning and the search for meaning in participants' lives. The MLQ consists of 10 items, divided into two subscales: Presence of Meaning and Search for Meaning. The Presence of Meaning subscale includes items 1, 4, 5, 6, and 9, with item 9 being reverse coded. The Search for Meaning subscale includes items 2, 3, 7, 8, and 10. Each item is rated on a 7-point Likert scale ranging from 1 (Absolutely Untrue) to 7 (Absolutely True). Sample items from

the Presence of Meaning subscale include "*I understand my life's meaning.*" and "*I have a good sense of what makes my life meaningful.*" Sample items from the Search for Meaning subscale include "*I am looking for something that makes my life feel meaningful*." and "*I am seeking a purpose or mission for my life.*" (Appendix 1).

To further ensure the reliability of the Meaning in Life Questionnaire (MLQ), internal consistency was assessed using Cronbach's alpha (Table 2).

Table 2

Cronbach's Alpha for MLQ Subscales

Subscale	Items	Cronbach's Alpha
Presence of Meaning	1,4,5,6,9	0.879
Search for Meaning	2,3,7,8,10	0.886

The Presence of Meaning subscale, consisting of 5 items, demonstrated a Cronbach's alpha of 0.879, indicating high internal consistency. Similarly, the Search for Meaning subscale, consisting of 5 items, showed a Cronbach's alpha of 0.886, indicating high internal consistency. These values suggest that the items within each subscale reliably measure the same underlying construct, thereby supporting the reliability of the MLQ in assessing meaning in life.

Data Analysis

Sentence Completion Test Integral (SCTi-MAP) Analysis

The initial phase involved scoring each of the seven sentence completions independently for each participant. Utilising the WUSCT scoring manual (Hy & Loevinger, 1996), each response was carefully reviewed and assigned a stage-based numerical rating. The possible stages included Impulsive, Self-Protective, Conformist, Self-Aware,

Conscientious, and Individualistic, each reflecting different cognitive and emotional development levels.

After the individual responses were scored, a frequency distribution was created for the item ratings across each participant's responses. This step involved counting how many times each stage-based rating occurred within the responses of a single participant, providing a clear overview of the distribution of their scores.

The next step was calculating the cumulative frequency distribution, also known as the ogive, based on the item ratings. The cumulative frequency was determined by progressively summing the scores' frequencies, which helped understand how the participant's responses were distributed across different ego development stages.

To determine the Total Protocol Rating (TPR), the ogive rules provided in the scoring manual were applied. These rules interpret the cumulative frequency distribution to convert it into a single ego stage rating. The rules specify thresholds and guidelines to accurately determine the participant's predominant stage of ego development.

Following the ogive determination, an impressionistic rating was conducted. This involved a holistic review of each participant's responses to get an overall impression of their ego development stage. The impressionistic rating required assessing the coherence and depth of the responses to ensure they aligned with the calculated TPR.

The final step was to verify that the TPR matched the impressionistic rating. If discrepancies were found between the ogive-determined TPR and the impressionistic assessment, the responses were re-evaluated. This re-evaluation aimed to resolve inconsistencies and ensure that the final rating accurately reflected the participant's ego development stage. Appendix 3 shows each participant's final TPR.

Meaning in Life Questionnaire (MLQ) Analysis

Every participant in the MLQ dataset received two primary scores: the Presence of Meaning Score and the Search for Meaning Score. These scores were based on participants' self-reports on the Meaning in Life Questionnaire, which evaluates the degree of significance people find in their lives and the degree to which they actively seek meaning (Appendix 3).

Several steps were undertaken to ensure the scores were usable to prepare the data for analysis. Initially, data cleaning was performed to verify that all scores were correctly recorded and consistent with the MLQ's scoring guidelines. This included checking for missing or outlier values and correcting them as necessary. Each item on the MLQ was scored on a 7-point Likert scale, and the individual item scores were summed to produce the overall Presence of Meaning and Search for Meaning scores for each participant. Descriptive statistics were calculated, including the mean, standard deviation, and range for the Presence of Meaning and Search for Meaning scores (Table 3).

Results

The study aimed to explore the relationship between general and situational meaning-making processes and the identification of problems and solutions from an individual's perspective. Data were collected using the Sentence Completion Test Integral (SCTi-MAP) to determine ego development stages and the Meaning in Life Questionnaire (MLQ) to measure the Presence of Meaning and Search for Meaning in Life.

Descriptive Statistics

The descriptive statistics for the Presence of Meaning and Search for Meaning scores across different ego development stages are summarised below:

Table 3

Descriptive Statistics of Meaning Scores by Ego Development Stage

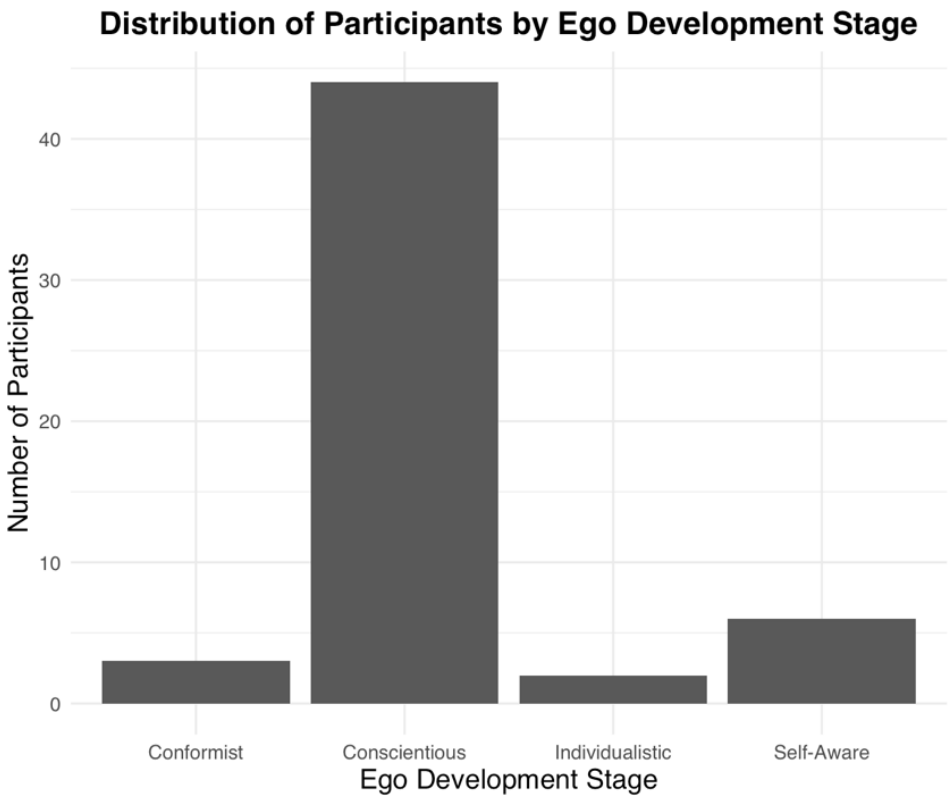
Ego Development Stage	Presence of Meaning (Range)	Presence of Meaning		Search for Meaning (Range)	Search for Meaning	
		M	SD		M	SD
Conscientious	9 - 35	23.00	6.44	5 - 35	22.77	7.37
Self-Aware	9 - 32	22	7.43	22 - 26	24.17	1.33
Conformist	7 - 29	21.67	12.70	28 - 30	29.00	1.00
Individualistic	25 - 29	27.00	2.83	30 - 31	30.50	0.71

These statistics provide a quantitative overview of how meaning-making scores vary across different developmental stages.

Participants were categorised into different ego development stages: Conscientious, Self-Aware, Conformist, and Individualistic. Most participants were classified in the Conscientious stage, characterised by responsibility, structured thinking, and self-reflection. This distribution provides a broad spectrum of cognitive and emotional development levels for analysis (see Figure 1).

Figure 1

Distribution of Participants by Ego Development Stage



Problem Conceptions Across WUSCT Stages

The results indicated distinct differences and some similarities in how participants at various WUSCT stages perceived and described their problems. Participants in the Conformist stage typically described straightforward, socially oriented problems. For instance, one participant noted, "*I analyse the motivation behind the criticism.*" (Participant 50), highlighting a focus on immediate social challenges and external validation. This stage's problem descriptions were generally simplistic, emphasising social approval and conforming to group norms.

In contrast, those in the Self-Aware stage articulated more introspective and complex issues. Their problem descriptions often involved personal goals and existential questions. For example, participant 50 mentioned, "*react depending on the person. If it is someone who I view as respectable and as a person with high intelligence on the subject I'm being*

criticised on, then I would definitely listen and ask for elaboration to find out more. If it is someone with lower intelligence on the subject than he or she thinks, then I'd kindly listen but don't do anything with it.", reflecting a deeper understanding of personal aspirations and the broader impact of their career decisions. This stage significantly shifted from external validation to internal reflection and personal growth.

Participants in the Conscientious stage exhibited the broadest range of problem descriptions, spanning practical concerns to profound reflections on personal development. For example, "*I can get angry if the criticism is unfair.*" (Participant 44) illustrates a sophisticated approach to self-improvement. Participant 33 stated, "*Balancing work responsibilities with family time is challenging.*", indicating a practical yet reflective approach to managing multiple life roles. This stage's descriptions were marked by detailed plans and strategies for personal and professional growth, demonstrating high self-awareness and proactive problem-solving.

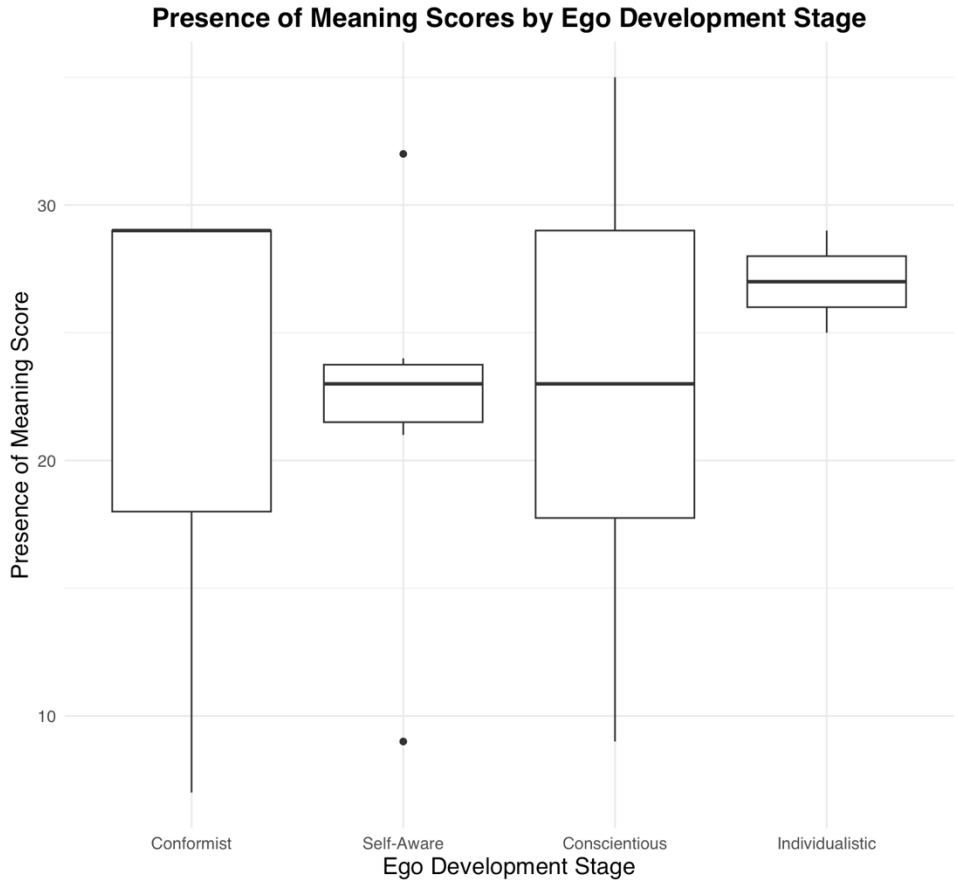
The few participants in the Individualistic stage demonstrated the most nuanced and complex problem conceptions. Their descriptions often involved ethical considerations and multiple perspectives. An example from this group is, "*If the criticism comes from people I trust or professionals with more experience, I'll use it to improve my skills and become a better individual or professional. However, it's important to distinguish between healthy criticism and potential gaslighting. So, I rely on my internal beliefs, values, and feelings to decide whether to accept the criticism or politely decline it to protect myself and my boundaries.*" (Participant 54), indicating a high level of cognitive integration and ethical deliberation. This participant reflected deeply on the moral and ethical dimensions of their problems, showing an advanced level of cognitive and emotional development.

Overall, the problem descriptions became progressively more complex and introspective with each higher stage of ego development. Conformist stage participants

focused on immediate, socially-driven issues, while Self-Aware stage participants delved into personal and existential concerns. Conscientious stage participants combined practical and reflective approaches, with examples like "*Facing my Fears*" (Participant 31) and "*Balancing work responsibilities with family time is challenging*" (Participant 33). Individualistic stage participants incorporated ethical considerations and advanced cognitive integration in their problem-solving processes, as illustrated by statements such as "*Navigating the ethical implications of my work decisions*" (Participant 16) and "*Understanding and managing my biases in leading a diverse team*" (Participant 53).

Figure 2

Presence of Meaning Scores by Ego Development Stage



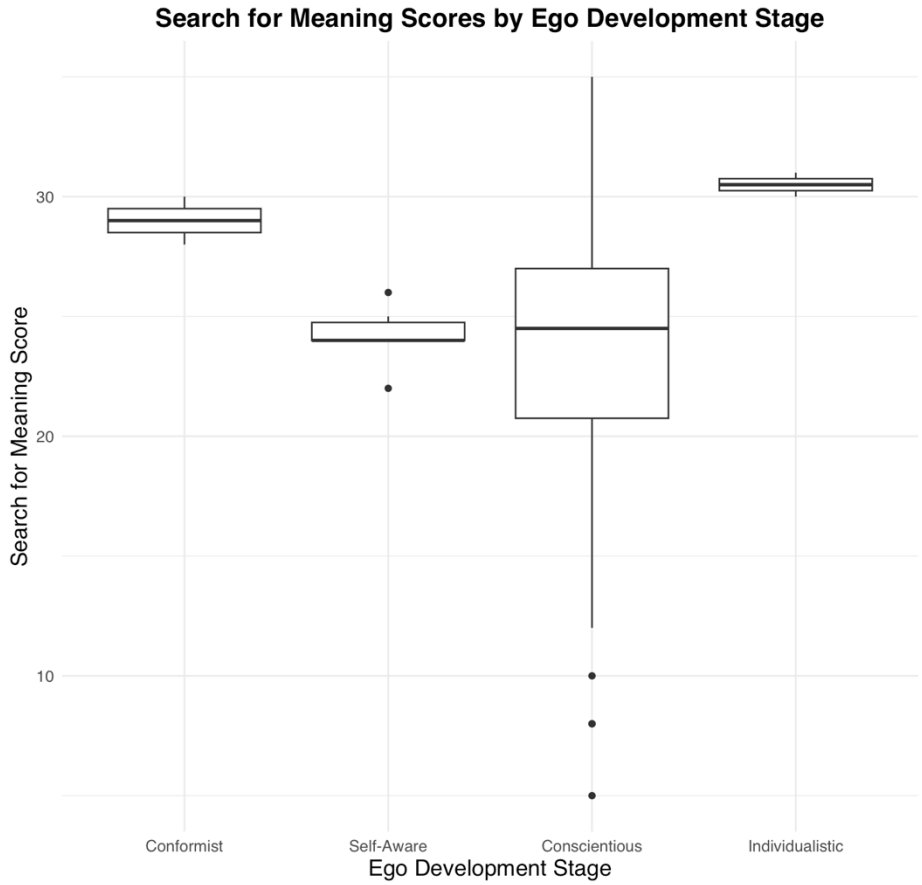
General and Situational Meaning-Making Across Stages

The extent and nature of general and situational meaning-making varied significantly across the ego development stages. Table 3 shows the Descriptive Statistics of Meaning Scores by Ego Development Stage. Figure 2 visualises the Presence of Meaning Scores by Ego Development Stage and Figure 3 visualises the Search for Meaning Scores by Ego Development Stage Participants in the Conformist stage showed less variability in their meaning-making processes, primarily deriving meaning from social approval and adherence to norms. This group had relatively homogeneous scores in the Presence of Meaning, ranging from 7 to 29 with a mean of 21.67 and a standard deviation of 12.70, and in the Search for Meaning, ranging narrowly from 28 to 30 with a mean of 29.00 and a standard deviation of 1.00. For instance, Participant 47 finished the sentence "*When I am criticised…*" with, "*I get sad.*", highlighting a reliance on external validation.

In contrast, participants in the Self-Aware stage exhibited greater diversity in their meaning-making strategies. Their scores indicated a higher engagement in both the Presence and Search for Meaning. Presence of Meaning scores ranged from 9 to 32, with a mean of 22 and a standard deviation of 7.43, while Search for Meaning scores ranged from 22 to 26, with a mean of 24.17 and a standard deviation of 1.33. For example, Participant 17 reflected, "*I want to listen but some part of me often gets defensive.*", indicating active engagement in existential questioning and personal development.

Figure 3

Search for Meaning Scores by Ego Development Stage



Participants in the Conscientious stage displayed the broadest range of meaning-making processes, aligning with their diverse problem descriptions. Their scores in the Presence of Meaning ranged from 9 to 35, with a mean of 23.00 and a standard deviation of 6.44, and in the Search for Meaning, from 5 to 35, with a mean of 22.77 and a standard deviation of 7.37. Higher scores in both categories were associated with more complex and reflective problem descriptions. For instance, "*I try to understand and view the perspective of the other and then think of how much I can understand the criticism and what I do not agree with*" (Participant 22), exemplifies a reflective approach to personal challenges.

Although fewer in number, participants in the Individualistic stage demonstrated the highest complexity in their meaning-making processes. Their responses indicated a high level

of self-awareness and integration of diverse life experiences into a coherent framework of meaning. Presence of Meaning scores for this group ranged from 25 to 29, with a mean of 27.00 and a standard deviation of 2.83, while Search for Meaning scores ranged from 30 to 31, with a mean of 30.50 and a standard deviation of 0.71. For instance, one participant stated, "*I love that I am a curious and social person with my creative vision*." (Participant 16), reflecting a sophisticated understanding of personal identity and life purpose.

Interrelationship Between Problem Conceptions and Meaning-Making

The parallels and contrasts in meaning-making are reflected in how participants perceive problems across stages. Those at higher ego development stages, such as Conscientious and Individualistic, not only identified more intricate problems but also showed more sophisticated and integrative meaning-making processes. This correlation implies that advanced cognitive and emotional development aids in recognising complex problems and fostering profound meaning-making.

For example, a participant in the Conscientious stage with high scores (25 on Presence of Meaning and 35 on Search for Meaning) remarked, "*I try to see it as an improvement*." (Participant 9). This reflects a reflective and adaptive mindset, highlighting self-awareness and the capacity to incorporate feedback constructively. Their high meaning-making scores indicate an active pursuit and maintenance of a sense of purpose, which guides their problem-solving methods.

In contrast, Participant 3, in the Conformist stage, scored lower (7 on Presence of Meaning and 28 on Search for Meaning) and expressed their issue as "*I feel like a failure.*" This more straightforward problem description underscores a dependence on external validation and a less mature approach to meaning-making. The lower scores suggest difficulties in finding deeper meaning and a tendency to assess self-worth based on external feedback, influencing their approach to problem-solving.

At the Individualistic stage, a participant scored 25 on the Presence of Meaning and 31 on the Search for Meaning. They articulated their problem as "*Navigating the ethical implications of my work decisions*" (Participant 16). This sophisticated problem description illustrates a high level of cognitive and emotional integration, considering multiple viewpoints and values in their decision-making process. Their high scores reflect a strong engagement with existential questions and a well-developed sense of personal identity, promoting a holistic problem-solving approach.

Overall, the link between problem conceptions and meaning-making processes is evident across the different stages of ego development. Participants with higher meaning-making scores generally express more complex and introspective problems. This suggests that advanced cognitive and emotional development equips them to tackle life's challenges with greater depth and sophistication. These findings highlight the significance of fostering higher ego development stages to improve individuals' problem-solving capabilities and psychological resilience.

Summary of Findings

Addressing the research question, "*How do general and situational meaning-making relate to the problem that is identified?*" the study reveals that problem conceptions and meaning-making processes are intricately linked and differ significantly across various WUSCT stages.

Participants in higher ego development stages, such as Conscientious and Individualistic, demonstrated more complex and integrative approaches to identifying problems and making meaning of their experiences. Specifically, these participants exhibited sophisticated general meaning-making processes involving ongoing reflection on personal values and long-term goals. Situational meaning-making in these stages was characterised by adaptive responses to immediate challenges, integrating feedback, and ethical considerations.

In contrast, participants in lower stages, such as Conformist, described more straightforward, socially-oriented problems and relied heavily on external validation, indicating simpler general meaning-making processes. Their situational meaning-making often involved immediate social approval and adherence to group norms. Those in the Self-Aware stage presented a middle ground, with introspective and complex issues tied to personal goals and existential reflections, demonstrating a blend of situational and general meaning-making that reflected a transition from external to internal sources of validation and purpose.

These findings indicate that individuals exhibit more complex and nuanced problem identification and meaning-making processes as ego development progresses. Participants in higher stages are better equipped to integrate various aspects of their experiences, leading to more sophisticated problem-solving strategies. Conversely, those in lower stages tend to focus on immediate social validation and simpler problem conceptions.

The results underscore the relationship between ego development, meaning-making processes, and problem identification, highlighting the potential benefits of fostering higher cognitive and emotional development stages.

Discussion

Recap of Research Question and Findings

This study explored the relationship between general and situational meaning-making processes and how individuals identify problems. The central research question was: "*How do general and situational meaning-making relate to the problem that is identified?*". The findings revealed that participants at higher stages of ego development, particularly those in the Conscientious and Individualistic stages, displayed more sophisticated and nuanced meaning-making processes. These stages were characterised by an enhanced capacity for self-reflection, metacognition, and emotional regulation, which are crucial for complex

problem identification and solution formulation (Hy & Loevinger, 1996; Cook-Greuter, 1999; Kegan, 2009). Specifically, participants with advanced ego development stages demonstrated a greater ability to integrate general meaning-making, which encompasses overarching life beliefs and values, with situational meaning-making, which involves interpreting specific events in the context of these broader frameworks. This integrative approach enabled them to perceive and address problems with greater depth and flexibility, emphasising the importance of fostering advanced cognitive and emotional development to improve problem-solving skills and resilience (Billett, 2008; Park & Folkman, 1997; Schnell, 2011).

General meaning-making refers to the comprehensive frameworks individuals use to understand life, which are shaped by their beliefs, values, and goals (Schnell, 2009; Park, 2010). Situational meaning-making, on the other hand, pertains to how individuals interpret and find meaning in specific events or challenges in their lives (Park, 1997; Nilsson et al., 1999). The findings suggest that individuals who can effectively integrate general and situational meaning-making are better equipped to identify and solve problems (Merron et al., 1987; Shin & Kelly, 2015). This integration allows them to view problems not as isolated incidents but as parts of a larger narrative, which enhances their ability to devise effective and contextually appropriate solutions (Peterson, 2002; Park, 2013).

Comparison with Existing Literature

The relationship between ego development stages and meaning-making processes found in this study aligns with and extends existing literature on the subject. Cook-Greuter's (1999) framework of ego development highlights the progression from concrete to abstract thinking, which is evident in the advanced meaning-making capabilities of participants at higher developmental stages. This progression supports the idea that individuals at higher ego stages, such as those classified as Conscientious and Individualistic, possess greater cognitive and emotional complexity, as Hy and Loevinger (1996) suggested. These stages are

characterised by an enhanced capacity for self-reflection, metacognition, and emotional regulation, crucial for complex problem identification and solution formulation (Kegan, 2009).

Schnell's (2009, 2011) research on the sources of meaning underscores the importance of drawing from diverse meaning sources in enhancing cognitive schemas for problem-solving. Individuals at higher stages of ego development tend to derive meaning from various sources, including personal relationships, professional achievements, and spiritual beliefs. This diversity in meaning sources enriches their cognitive frameworks, allowing them to approach problems with a broader perspective. Consequently, these individuals can integrate general life principles with situational contexts to develop more effective and innovative solutions (Schnell, 2009; Schnell, 2011). For example, participants at higher stages displayed a more nuanced understanding of their problems and employed sophisticated meaning-making processes, aligning with Billett's (2008) notion of relational interdependence between personal and social agency.

The observed link between emotional regulation and advanced problem-solving abilities aligns with the findings of Kemeny et al. (2012), who emphasise the role of emotional intelligence in promoting adaptive responses and prosocial behaviour. Participants in higher ego development stages exhibited superior emotional regulation and could effectively manage stress and negative emotions, facilitating better problem identification and resolution. This finding supports the notion that emotional intelligence is integral to meaning-making and problem-solving, reinforcing the importance of integrating emotional regulation strategies in developmental and educational programs (Kemeny et al., 2012; Park & Folkman, 1997).

The study's findings also resonate with Park's (2010) theoretical perspectives, which emphasise the integration of general and situational meanings in coping with life's challenges.

According to Park, individuals who can align their situational interpretations with their broader life beliefs and values are more resilient and better able to cope with stress. This study provides empirical support for Park's model by demonstrating that participants at higher ego development stages, who were more adept at integrating general and situational meaning-making, showed enhanced problem-solving capabilities (Park, 2010). This integration was evident as participants at higher stages could view problems not as isolated incidents but as parts of a larger narrative, enhancing their ability to devise effective and contextually appropriate solutions (Peterson, 2002).

Moreover, the study aligns with the findings of Corona et al. (2019), who demonstrated that meaning in life moderates the association between stressful experiences and negative outcomes. Participants in the Conscientious and Individualistic stages, who showed a higher capacity for meaning-making, also exhibited greater resilience in problem-solving, further validating the interconnectedness of meaning-making, emotional regulation, and problem identification.

Overall, the study extends the theoretical understanding of the relationship between ego development, meaning-making processes, and problem identification. The findings underscore the importance of fostering advanced cognitive and emotional development by highlighting the nuanced differences in how individuals at various developmental stages approach meaning-making and problem-solving. This aligns with the research by Fløvik et al. (2018) on the impact of organisational change and mental health, suggesting that adaptive meaning-making processes can mitigate the negative effects of stress and promote well-being.

In summary, the research question, "*How do general and situational meaning-making relate to the problem that is identified?*" is answered by demonstrating that higher stages of ego development facilitate a more integrated and sophisticated approach to meaning-making

and problem-solving. These findings are consistent with existing theories and empirical studies, emphasising the critical role of cognitive and emotional development in enhancing individuals' adaptability and resilience in facing life's challenges. Future research should continue exploring these relationships in diverse cultural contexts to validate and extend these findings (Van Den Heuvel et al., 2020).

Theoretical Implications

The results of this study have several theoretical ramifications for our comprehension of how meaning-making and ego development work. First, the study emphasises how crucial it is for theories of ego development to incorporate both cognitive and emotional processes. Higher and lower phases of ego development seem to be distinguished by the capacity for self-reflection, metacognition, and emotional regulation. This emphasises the necessity of including these psychological mechanisms as essential elements in models of ego development (Cook-Greuter, 1999; Kegan, 2009).

Secondly, the study provides empirical support for the meaning-making model (Park, 2010), demonstrating its applicability across different stages of ego development. The model's emphasis on integrating global and situational meanings aligns well with the observed differences in meaning-making processes at various stages of ego development. This suggests that the meaning-making model can serve as a valuable framework for understanding how individuals at different developmental stages navigate complex life challenges and derive meaning from their experiences.

Furthermore, the study's findings contribute to the literature on emotional intelligence and its role in personal development. The association between emotional regulation and advanced problem-solving abilities suggests that emotional intelligence is a critical factor in the progression through ego development stages. This aligns with existing theories emphasising the interplay between cognitive and emotional development and underscores the

importance of fostering emotional intelligence in educational and developmental programs (Park & Folkman, 1997; Schnell, 2009).

Limitations

Despite these significant findings, the study has several limitations. One major limitation is the reliance on a convenience sample drawn from a single university, which may not represent the broader population. Because of this constraint, the results cannot be applied to a larger population because the sample may have certain features that do not represent the diversity of the broader population. To improve the external validity of the findings, future research should include more representative and diverse samples (Schnell, 2009; Fløvik et al., 2018). The cross-sectional form of the study, which prohibits concluding causality, is another drawback. The study finds correlations between meaning-making processes and ego development phases but cannot show causation. Longitudinal research is required to investigate how meaning-making processes vary over time and how these changes affect ego development phases.

Furthermore, the study depends on self-reported data and is prone to self-perception and social desirability biases. Rather than sharing their experiences, participants might have given answers they felt were more aligned with expectations or socially acceptable. Future studies could reduce these biases and offer a more thorough knowledge of meaning-making processes by combining data-gathering techniques such as behavioural observations and reports from significant others.

Future Research

Future research should focus on longitudinal studies to better understand the relationship between ego development stages and the evolution of meaning-making processes. Such studies could track changes over time to establish causal links between ego development and meaning-making capabilities.

Expanding the sample to include a more diverse population in terms of cultural, socioeconomic, and educational backgrounds would enhance the generalisability of the findings (Van Den Heuvel et al., 2020; Fløvik et al., 2018). Cross-cultural studies could shed light on the universal and culturally specific aspects of meaning-making and ego development (Billett, 2008; Merron et al., 1987).

Utilising multiple data collection methods, such as qualitative interviews, behavioural observations, and reports from close associates, could provide a more comprehensive understanding of meaning-making processes. This multi-method approach would help reduce biases associated with self-reported data and offer deeper insights into individuals' experiences.

Examining the effectiveness of interventions aimed at enhancing self-reflection, metacognition, and emotional regulation could provide valuable information on supporting higher-order thinking skills and meaning-making processes. Intervention studies could explore how specific therapeutic approaches or training programs influence individuals' capacity for meaning-making and ego development (Corona et al., 2019; Shin & Kelly, 2015).

Conclusion

This study sought to investigate the relationship between general and situational meaning-making processes and problem identification, addressing the central research question: "*How do general and situational meaning-making relate to the problem that is identified?*" This research reveals a significant connection between ego development stages and the complexity of meaning-making processes, which in turn influence how problems are identified and addressed.

Participants at higher ego development stages, particularly those in the Conscientious and Individualistic stages, exhibited more sophisticated and nuanced meaning-making

processes. These stages were characterised by an enhanced capacity for self-reflection, metacognition, and emotional regulation, essential for complex problem identification and solution formulation. Specifically, individuals at these advanced stages demonstrated an ability to integrate general meaning-making—rooted in overarching life beliefs and values—with situational meaning-making, which involves interpreting specific events within these broader frameworks. This integrative approach enabled them to perceive and address problems with greater depth and flexibility, emphasising the importance of fostering advanced cognitive and emotional development to enhance problem-solving skills and resilience.

The study also found that participants in the Conformist stage described more straightforward, socially-oriented problems and relied heavily on external validation. Their situational meaning-making often involved immediate social approval and adherence to group norms. In contrast, participants in the Self-Aware stage presented a middle ground, with introspective and complex issues tied to personal goals and existential reflections, indicating a transition from external to internal sources of validation and purpose.

These findings contribute to the existing literature by providing empirical support for ego development and meaning-making theories. The research aligns with Cook-Greuter's (1999) framework of ego development, highlighting the progression from concrete to abstract thinking. It also resonates with Schnell's (2009, 2011) research on the sources of meaning, emphasising the role of diverse meaning sources in enhancing cognitive schemas for problem-solving. Furthermore, the study supports Kemeny et al.'s (2012) assertion about the role of emotional regulation in promoting adaptive responses and prosocial behaviour.

Contribution to the Field

This study contributes to the field by deepening the understanding of how ego development stages impact meaning-making processes and problem-solving capabilities. By

highlighting the need to foster advanced cognitive and emotional development, the findings open pathways for designing interventions and support services promoting adaptability and resilience. Integrating general and situational meaning-making processes is crucial for effective problem identification and solution formulation, which has personal and professional development implications.

Final Thoughts

In conclusion, the relationship between general and situational meaning-making and problem identification is intricately linked to ego development stages. Higher stages of ego development facilitate a more integrated and sophisticated approach to meaning-making and problem-solving. These findings underscore the importance of supporting cognitive and emotional development to enhance individuals' adaptability and resilience in facing life's challenges. Future research should continue to explore these relationships in diverse cultural contexts to validate further and extend these findings, ultimately contributing to a deeper understanding of human development and well-being.

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Appendices

Appendix 1

Meaning of Life Questionnaire

Item	Rate on a scale for 1 (Absolutely Untrue) to 7 (Absolutely True)
1	I understand my life's meaning.
2	I am looking for something that makes my life feel meaningful.
3	I am always looking to find my life's purpose.
4	My life has a clear sense of purpose.
5	I have a good sense of what makes my life meaningful.
6	I have discovered a satisfying life purpose.
7	I am always searching for something that makes my life feel significant.
8	I am seeking a purpose or mission for my life.
9	My life has no clear purpose.
10	I am searching for meaning in my life.

Appendix 2

Sentence Completion Test

Item	
1	When I am criticised …
2	I am …
3	A good student …
4	My main problem or challenge is …
5	The most important way to address or solve that problem is …
6	I am afraid that …
7	The thing, I like about myself …

Appendix 3

Participant Scores for Presence of Meaning, Search for Meaning, and Ego Development Stage

Participant	Presence of Meaning Score	Search for Meaning Score	Ego Development Stage
1	25	30	Conscientious
2	32	25	Self-Aware
3	7	28	Conformist
4	28	12	Conscientious
5	27	21	Conscientious
6	15	33	Conscientious
7	30	13	Conscientious
8	26	20	Conscientious
9	25	35	Conscientious
10	26	21	Conscientious
11	14	24	Conscientious
12	17	22	Conscientious
13	23	29	Conscientious
14	33	29	Conscientious
15	16	27	Conscientious
16	25	31	Individualistic
17	23	26	Self-Aware
18	22	5	Conscientious
19	29	24	Conscientious
20	9	24	Self-Aware

21	29	31	Conscientious
22	35	35	Conscientious
23	23	24	Self-Aware
24	22	28	Conscientious
25	22	23	Conscientious
26	18	14	Conscientious
27	13	27	Conscientious
28	30	25	Conscientious
29	9	8	Conscientious
30	23	26	Conscientious
31	11	25	Conscientious
32	31	8	Conscientious
33	21	28	Conscientious
34	14	27	Conscientious
35	35	10	Conscientious
36	24	22	Conscientious
37	23	24	Conscientious
38	19	22	Conscientious
39	20	16	Conscientious
40	17	14	Conscientious
41	23	24	Conscientious
42	29	29	Conformist
43	17	25	Conscientious
44	20	25	Conscientious
45	29	26	Conscientious

46	16	25	Conscientious
47	29	30	Conformist
48	29	25	Conscientious
49	23	25	Conscientious
50	24	22	Self-Aware
51	29	12	Conscientious
52	24	24	Conscientious
53	21	24	Self-Aware
54	29	30	Individualistic
55	30	33	Conscientious