

SEARCHING FOR MEANING IN COINCIDENCES & PSYCHOLOGICAL WELL-
BEING: RESILIENCE-BUILDING OR RISK FACTOR?

by

ANTONIOS OIKONOMOPOULOS

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE

in

COUNSELING PSYCHOLOGY & PSYCHOTHERAPY

The American College of Greece

2024

THESIS APPROVAL

“Searching for Meaning in Coincidences & Psychological Well-Being: Resilience-Building or Risk-Factor?” a thesis prepared by Antonios Oikonomopoulos in partial fulfillment of the requirements for the Master of Science degree in Counseling Psychology & Psychotherapy was presented 2024 [defense date] and was approved and accepted by the thesis committee and the School of Graduate & Professional Studies.

COMMITTEE APPROVALS:

Dr. Chrysanthi Nega, Thesis Advisor

Dr. Katerina Zymni, Committee member

Dr. Ion Beratis, Committee member

APPROVED BY:

Dr. Chrysanthi Nega, Chair, Psychology Department

© Antonios Oikonomopoulos 2024

All rights reserved

An Abstract of the Thesis of Antonios Oikonomopoulos
for the degree of Master of Science in Counseling Psychology & Psychotherapy to be
awarded in June 2024

Title: SEARCHING FOR MEANING IN COINCIDENCES & PSYCHOLOGICAL
WELL-BEING: RESILIENCE-BUILDING OR RISK FACTOR?

Abstract

For some individuals, meaningful coincidences are perceived as “mere” coincidences, while others consistently find meaning and purpose in them. Emerging empirical evidence has suggested a positive influence of the phenomenon on mental health, yet findings are limited and mixed. The present study assessed the capacity of synchronicity experiences to predict psychological outcomes and to explore the potential influence of relevant moderators. 112 participants (65 female) based in Greece completed self-report measures assessing synchronicity awareness and meaning-detection, paranoid ideation, emotion regulation (cognitive reappraisal and expressive suppression), positive and negative affect, spirituality, and life satisfaction. Our results revealed that meaning detection predicted higher levels of positive affect overall, and it was associated with higher life satisfaction for those with average or above average spirituality, and cognitive reappraisal. Gender-specific analyses revealed that for males, via the moderation of higher cognitive reappraisal or lower spirituality, meaning detection predicted paranoid ideation and expressive suppression, respectively. For females, meaning-detection predicted positive outcomes (increased life satisfaction, reduced expressive suppression

and reduced negative affect), moderated by cognitive reappraisal. Insights on the interplay of synchronicity experiences, gender, emotion regulation, affect, spirituality, and psychological well-being are discussed, along with the present study's clinical implications, signaling the need for further research on the phenomenon.

Keywords: meaningful coincidences, synchronicity experiences, emotion regulation, spirituality, life satisfaction

ANTONIS OIKONOMOPOULOS

PERSONAL INFORMATION

Date of Birth
Citizenship

FIELDS OF INTEREST

- Existential & psychoanalytic psychotherapy
- Synchronicity, spirituality, & psychedelic research
- Awareness-raising, stigma-reduction, & social advocacy

EDUCATION

09/2022 – 10/2024	The American College of Greece (Deree) – Athens <i>Master of Science - MSc Counseling Psychology & Psychotherapy</i>
05/2023 – 9/2023	National & Kapodistrian University of Athens -Athens <i>Panic Attacks: Theoretical Framework and Practical Management</i>
01/2014 – 12/2019	The American College of Greece (Deree) – AAthens <i>Bachelor of Arts - BA, Psychology</i>
10/2012 – 10/2013	SAE – School of Audio Engineering - Athens <i>Audio Engineering Diploma</i>
9/2009 – 6/2014 (unfinished)	National & Kapodistrian University of Athens – Athens <i>Department of Informatics & Telecommunications</i>
09/2002 – 06/2008	Lambiri Schools – Moschato <i>Greek Apolytirion</i>

WORK EXPERIENCE

09/2022 – 07/2023	Colibri Mets – Athens <i>Cook</i>
09/2016 – 12/2019	American College of Greece (Deree) – Athens <i>Lab Assistant</i>
09/2012 – 6/2017	ELEF.SYN.A. (Eleftheriakos Syndesmos Apeksartisis) – Athens <i>Medical Office Assistant - Rehabilitation Center</i>
06/2015 – 09/2015	Coralli Camping – Serifos <i>Bartender</i>

SEMINARS

10/2023	<i>Trauma and the Body: An Introduction to Sensorimotor Psychotherapy</i> (Sensorimotor Psychotherapy Institute)
11/2014 - 11/2019	<i>Psychology Month</i> , Psychology Society, The American College of Greece (Deree)
04/2013	<i>Sound Healing & Therapy Certificate</i> , SAE Institute

ACADEMIC PRESENTATIONS

07/2021	<i>Predisposing Factors Associated with the Experience of Meaningful Coincidences</i> : Poster presentation of primary research at the 32th International Congress of Psychology (ICP 2020+, Prague, Czech Republic).
06/2019	<i>Suicidality in Adolescents Suffering from Depression: How Effective are Current Interventions?</i> : Poster presentation of literature review at the 5h Annual Student Research and Creative Arts Symposium (Deree –The American College of Greece).

VOLUNTEER WORK

6/2024 – 12/2024	<i>Trainee Psychotherapist at the the Municipality of Athens, 6th Medical Center.</i>
9/2023 – 12/2024	<i>Trainee Psychotherapist at the Counseling Center – Deree American College of Greece</i>
10/2023 – 5/2024	<i>Assistant Psychologist at Pierce Gymnasium</i>
2/2018 – 3/2019	<i>Assistant Psychologist at Psychiatric Day-Hospital (EPIPSY)</i>
10/2015 – 05/2017	<i>Web-radio producer (afandubradio.com)</i>
09/2013 – 06/2014	<i>Therapeutic intervention via group theater for individuals recovering from opioid addiction (ELEF.SYN.A.)</i>

SKILLS

Languages	Greek, English (Certificate of Proficiency)
IT	IBM SPSS Statistics Windows & MS office; Mac; Linux Audio Engineering Software (Pro-Tools, Digital Performer, Logic etc.)
Other	Adaptability, Empathy, Communication Skills, Critical Thinking

ACKNOWLEDGEMENTS

First, I want to express my deep gratitude to Dr. C. Nega for her unwavering support and guidance towards the completion of this thesis. I am immeasurably grateful for her trust in my research skills, as well as for her practical guidance throughout the process of this project. I would also like to thank Dr. Spentza for her invaluable guidance in the appropriate statistical analyses. Additionally, I am deeply grateful to Dr. Karakitsou for her generous assistance in recruiting undergraduate students. Moreover, I am immensely grateful to Dr. Zymni and Dr. Beratis, the two members of the Thesis Committee, for inspiring me to strive towards thoughtful interpretations on both a theoretical and methodological level.

I also want to thank the practicum coordinator, Dr. Takis, along with my supervisors, Dr. Zymni and Dr. Koliri, as well as the psychologist of the Counseling Center, Elia, and my future colleagues from the cohort of 2023-2024, especially Sauli, Leda, and Ilektra, for their empathetic and enriching contributions to the broader intellectual and social climate of our MSc program.

Furthermore, I would like to express my appreciation to my family for their unconditional support and encouragement, especially to my father, Giorgis Oikonomopoulos. His unwavering encouragement has been a driving factor in my studies throughout the years.

Finally, this project was made possible only through the generosity of the participants who voluntarily took part in this study and reported on their synchronicity experiences, including the members of the Deree community at both the undergraduate and graduate levels, to whom I am wholeheartedly grateful.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Paranoid Ideation.....	8
Meaningful Coincidences & Psychological Well-Being.....	10
Emotion Regulation.....	13
Moderation Hypotheses.....	15
Purpose of the Study.....	18
II. METHOD.....	19
Participants.....	19
Materials.....	20
Procedure.....	23
III. RESULTS.....	24
IV. DISCUSSION.....	41
Limitations & Future Recommendations.....	52
Implications for Counseling & Psychotherapy.....	53
Conclusion.....	60
REFERENCES.....	63
TABLES.....	72
FIGURES.....	86
APPENDICES.....	94

LIST OF TABLES

Table	Page
1. Descriptive Statistics for Continuous Variables of the Study.....	72
2. Bivariate Intercorrelations.....	73
3. Effects of Predictors on Outcomes Moderated by Cognitive Reappraisal.....	74
4. Effects of Predictors on Outcomes Moderated by Expressive Suppression.....	76
5. Effects of Predictors on Outcomes Moderated by Spirituality.....	77
6. Effects of Predictors on Outcomes Moderated by Cognitive Reappraisal (M)....	78
7. Effects of Predictors on Outcomes Moderated by Expressive Suppression (M)...	79
8. Effects of Predictors on Outcomes Moderated by Spirituality (M).....	80
9. Effects of Predictors on Outcomes Moderated by Cognitive Reappraisal (F).....	82
10. Effects of Predictors on Outcomes Moderated by Expressive Suppression (F)....	84
11. Effects of Predictors on Outcomes Moderated by Spirituality (F).....	85

LIST OF FIGURES

Figure	Page
1. Figure 1.....	86
2. Figure 2.....	87
3. Figure 3.....	88
4. Figure 4.....	89
5. Figure 5.....	90
6. Figure 6.....	91
7. Figure 7.....	92
8. Figure 8.....	93

Searching for Meaning in Coincidences & Psychological Well-Being: Resilience-Building or Risk-Factor?

Subjective experiences are often shaped by cultural beliefs, according to which individuals attend and ascribe meaning to a multitude of information across events and situations (Frankl 1963; Taves & Barlev, 2023). Meaningful coincidences are often perceived by many as “mere” coincidences, attributable to chance and the expected likelihood of certain probabilities. Yet, for others, they constitute sacred moments, filled with a personally relevant meaning in which the boundaries between one’s internal subjective world and the external reality are thinned. Accordingly, individuals who adopt an atheist worldview might disparage the notion that there could be any meaning in coincidences and deliberately choose to not attend to them. In contrast, various religious or spiritual traditions encourage individuals to perceive coincidences as meaningful synchronicities which offer pathways towards personal growth and self-discovery. Indeed, such cultural beliefs will influence whether such experiences will be conceived as pathological or normal, guiding its interpretive framework for individuals, experts, and communities (Beitman, 2009; Taves & Barlev, 2023).

To understand better this cultural divide, let’s consider as an illustration three different theoretical approaches to the phenomenon of meaningful coincidences that have guided its understanding for psychologists and mental health professionals: a cognitive, a psychoanalytic, and a Jungian.

From a neurocognitive perspective, coincidences have been defined as “surprising pattern repetitions that are observed to be unlikely by chance but are nonetheless ascribed to chance since the search for causal mechanisms has not produced anything more

plausible than mere chance” (Johansen & Osman, 2015, p. 11). To be sure, humans have consistently been identified as being bad at estimating probabilities (Tversky and Kahneman 1974). Still, we are wired to construct predictive and explanatory models of the world; through cognitive heuristics and biases, such as the self-attribution bias or attentional biases, we might over-rely on internal models and over-generalize their relevance to external contexts, resulting in the experience of meaning in randomness (Van Elk et al., 2016). Similarly, the confirmation, egocentric, hindsight, and availability biases have been reported to be of relevance to the experience and interpretation of coincidences (Beitman, 2009). Confirmation bias refers to a tendency to attend to external stimuli that confirm preexisting individual beliefs and expectations; in this vein, coincidences can be assimilated more easily as they fit with and strengthen our expectations. The egocentric bias entails the amplification of the personal importance of a coincident occurrence: “if it happened to me, it is meaningful and bewildering; if it happens to others, it is a mere probability”. According to the hindsight bias, memory distortions, ideations of foreseeability and inevitability (i.e. “it was predictable and/or it had to happen”) occur when individuals look back to their recent experiences and events. The availability bias refers to the impact of recency and availability of beliefs and experiences in influencing current interpretation and responses; for example, emotionally charged events that occurred recently might be associated with the ascription of meaning in external events (Beitman, 2009). Furthermore, hemispheric lateralization has been identified as a contributing factor to the phenomenon. The right hemisphere has been reported to perceive associations more readily, whereas the left hemisphere facilitates inhibitory control. Therefore, in the context of meaningful coincidences, it has been

suggested that the right hemisphere contributes to the perception of patterns and associations between events as meaningful, while the left hemisphere may attempt to rationalize cognitively and inhibit non-logical interpretations (Unger et al., 2021). In short, as Beitman has aptly commented: “the right brain associates while the left brain inhibits” (Beitman, 2009, p.1; Unger et al., 2021).

In an equally secular approach, yet utilizing a different framework and terminology, a traditional psychoanalytic understanding of meaningful coincidences would identify the defense mechanisms of projection (seeing externally the internal), introjection (internalizing the external), as well as a regression to omnipotence of thought, in which the boundaries between personal fantasies and external reality are thinned (Rabeyron & Watt, 2010). According to the projection perspective, anxieties, desires, expectations, and feelings relevant to past relationships are projected and expressed via symbolism in external events. Accordingly, the phenomenon can be viewed as a defense mechanism in which individual challenging experiences are explained by paranormal mystical forces rather than the subject’s own responsibility (Rabeyron, 2022). Introjection refers to the unconscious assimilation of external events as internal and personal; “it happened for/by me”. From a classical Freudian perspective, telepathy has been described as a regression to a more primitive and archaic part of the psyche, whereas object-relations theorists would suggest that the “magical” relationship between mother-baby is facilitated via introjective and projective identification, and it is this relationship which is relived in subsequent encounters. Finally, the concept of the transitional object put forth by Winnicott, has also been suggested as relevant to

meaningful coincidences, as subjective reality and external objectivity are intermediated by illusion in infant development (Ferreira Vieira, 2023).

Carl Jung (1961/1989) openly discussed the phenomena of synchronicity, and often gave examples of synchronicities in his own life. One of those referred to a heated argument with Freud with regards to whether a transpersonal realm really exists, including paranormal experiences. While debating about the validity of their beliefs and their implications for psychoanalysis, an odd physical sensation first arose in Jung, followed by a loud noise emanating from Freud's bookcase. Relevant to the topic of their debate, Jung declared the paranormal quality of the event and the uncanny synchronicity, whereas Freud disagreed. Jung predicted that it would happen again, which it did. The matter was never discussed further as the relationship between the two psychoanalysts deteriorated following their conflict on metaphysics.

A Jungian perspective on synchronicity would be spiritually open to the possibility that archetypal forces and the collective unconscious are the explanatory mechanisms of the phenomenon, whilst contemporary perspectives have also discussed the role of the symbolic yet significant element of re-connecting, as openness to synchronicity can help individuals deal with loss, fear of abandonment, early relational trauma, and mistrust which is commonly found in insecure attachment styles (Lagutina, 2021). For example, synchronicity experiences can often entail archetypal symbolism that corresponds to certain life stages and relevant action processes. According to Sacco, archetypes such as the *Spirit* (attachment in early infancy), the *Shadow* (defense mechanisms in 2-3 years of age), the *Self* (sociability in early childhood), the *Child* (play/laughter in middle childhood), the *Hero* (exploration in adolescence), *Animus-*

Anima (sexuality in adolescence), the *Creator* (caregiving/generativity in middle adulthood), and *Inertia* (energy regulation in older adulthood), can all be at times embedded in the symbolism that synchronistic phenomena entail for individuals (Sacco, 2020). Some authors have poignantly called for the need for a “synchronicity-informed psychotherapy”, that should embrace the role of synchronistic mystical experiences and their mysterious yet impossible to ignore meanings (Marlo, 2022). In a non-rationalist manner, Jungian analyst Thomas Elsner has suggested that “Meaning is a symbolic experience. Synchronicity implies the world is a symbol. There is music in the world, an ordered pattern without words that can be felt in the heart. More specifically, there is music at the intersection of psyche and world. Synchronicity is that music. While soundwaves may exist outside of human consciousness, music needs an ear to hear it” (p.4, Elsner, 2023). Similarly, Victor Frankl has suggested that “logos is deeper than logic”, indicating that irrational improbable meaning can be found and experienced in life despite the limited capacity of logic and intellectual reasoning to explain such phenomena (Frankl, 1969).

Following C. Jung’s conception and popularization of the concept of synchronicity in the mid-20th century, meaningful coincidences have frequently been mentioned in Western culture across literature, songs, movies, and personal accounts. However, the research evidence regarding the construct has been scarce through the past decades, following the inherent difficulties when approaching metaphysical non-verifiable phenomena. Recently, there seems to have emerged a renewed interest in their scientific understanding and investigation (Coleman & Beitman, 2009; Rominger et al., 2011; Roxburgh et al., 2016; Russo-Netzer & Icekson, 2023).

Relevant to synchronicity experiences, or meaningful coincidences, are the concepts of randomness, serendipity, seriality, simulpathity, precognition, and seriality, with some of them overlapping, others differing and contributing to a complex and inconsistent nomenclature (Sacco, 2020). In an attempt to provide a taxonomy for synchronicity, Sacco has suggested that i) the context (valence and intensity emotionality, time interval, recurrent or not, degree of similarity), ii) the type of process (mind-object, mind-mind, object-mind, object-object), the iii) symbolic archetypal content, and iv) the scientific versus spiritual approach to its explanation, can provide an initial fivefold model of classifying synchronicity experiences (Sacco, 2020). Beitman has proposed a similar model, according to which i) the emotional charge (surprise, wonder, curiosity, interest, feelings of significance), ii) the parallel content (two or more components of synchronicity share a similarity), iii) the explanation (“what does this mean and what is its cause”), and iv) its usefulness (“what does this mean *for me?*”), can serve as a model for examining coincidences (Beitman, 2016).

From a quantitative standpoint, there seem to be three available tools for the measurement of synchronicity or meaningful coincidences. In chronological order, the first one was the Coincidence Questionnaire in the early 2000s in Belgium (Bressan, 2002). Composed of eight items, it measures the frequency of meaningful coincidence experiences ranging from never to very often on a 5-point Likert scale. Second, in the late 2000s Beitman and colleagues at the University of Missouri, USA developed the Weird Coincidences Scale (WCS), composed of 12 items and two subscales (agentic and interpersonal), again measuring the frequency of synchronicity experiences (Beitman, 2016; Coleman & Beitman, 2009). Recently, the Synchronicity-Awareness and Meaning

Detection (SAMD) tool has been developed by Israeli researchers, drawing from qualitative data the items for their questionnaire (Russo-Netzer & Icekson, 2023). Including two subscales, it includes nine items for synchronicity awareness, which is similar to the other two scales, and 12 items for meaning detection in synchronicity, adding an additional component to the assessment of the phenomenon.

Within the ever-evolving paradigm of psychology and mental health, as it is interacting with cultural discourse, researchers and practitioners are not free from their own biases with their worldview influencing to some degree their approach to such constructs. For instance, some researchers have investigated the possible pathological correlates of paranormal beliefs and synchronicity experiences, including schizotypal traits, and reduced memory performance (e.g. Rabeyron & Watt, 2010; Rominger et al., 2022), whereas others have focused on the positive outcomes of the propensity to experience coincidences meaningfully, such as an increased intuition, attentional capacity and optimism (Attig et al., 2011; Russo-Netzer & Icekson, 2023).

The emerging research body on meaningful coincidence has relied mostly on cross-sectional, non-experimental qualitative or quantitative designs. In one of the few -if not the only, experimental designs relevant to the construct, Whitson & Galinsky (2008) across a series of studies reported that the manipulation of perceived sense of control was related with the tendency to perceive patterns in unrelated random stimuli, whereas utilizing a coping mechanism such as self-affirmation moderated the adverse impact of lack of control, as well as the propensity to find meaning in meaninglessness. An interpretation that follows these results is that lack of control is associated with increased amygdala-mediated anxiety, which in turn enhances the search for coherence in unrelated

patterns. In other words, when faced with ambiguity, the brain attempts to balance its distraught state via seeking a coherent, organized principle (Beitman, 2009; Whitson & Galinsky 2008). Although such experimental research has suggested state-dependent variability of the construct, the experience of synchronicity has even more so been established as a dispositional characteristic, with consistent individual differences observed across participants. (Bressan, 2002; Coleman & Beitman, 2009). In their review of the literature, Johansen and Osman (2015), found no evidence for any possible association between the propensity to experience meaningful coincidences and sociodemographic factors such as gender, intelligence, educational background, and occupation.

Paranoid Ideation

Paranoid ideation is a mental process characterized often by a lack of trust, suspiciousness, persecutory thinking, and grandiose, or self-referential content. It has been described as less severe than psychotic delusions with an approximate prevalence in the general population ranging from 15% to 33% (Na et al., 2019). Although different from delusions per se, it overlaps with psychotic experiences and is often comorbid or present along with schizophrenia, schizoaffective disorder, and paranoid personality disorder. Some authors have identified paranoid ideation without psychosis (PIP) as a construct associated with increased violence and aggression, depression, anxiety, insomnia, and alcohol use disorder, as well as suicidality (Na et al., 2019). Anxiety and insomnia have been reported not only as outcomes of PIP but also to further exacerbate paranoid ideation (Freeman et al., 2009).

Meaningful coincidences are relevant to paranoid ideation, self-referential, or magical thinking, as in such processes a personal meaning is attributed to apparently unrelated external phenomena. In their study with 52 Austrian university students of both genders, Rominger and colleagues reported an association between meaningful coincidences and positive schizotypy (Rominger et al., 2019). Positive schizotypy as an umbrella term includes paranoid ideation, perceptual aberrations, ideas of reference, magical thinking, odd speech, and odd behavior (Rominger et al., 2019). Another relevant construct is paranormal beliefs (defined as beliefs currently not explained by the scientific consensus). Paranormal beliefs have been found to overlap both with positive schizotypy and experiences of meaningful coincidences (Rominger et al. 2022). In Coleman and Beitman's study, experiences of synchronicity were associated with self-referential thinking, along with increased faith in intuition, vitality, positive, and negative affect (Coleman & Beitman, 2009). Beitman has argued that among those who report meaningful coincidences, there is a certain subgroup that would fit the profile of schizotypal diagnosis, while for others, coincidences are not linked with pathology (Coleman & Beitman, 2009). It seems that for individuals with paranoid or schizotypal traits, coincidences provide them with a structure in which they project their inner world to the external, further exaggerating their self-referential ideation.

From a psychoanalytical standpoint, early relational trauma and mistrust are often part of the psychoid level of the unconscious, manifesting through thought transference, uncanny acausal coincidences, and dreams (Lagutina, 2021). Relevant themes of loss, abandonment, and aloneness can be theorized as being reactivated through regression,

whereas synchronicity experiences provide an opportunity for re-connecting individuals through relational containers towards openness and interconnectedness.

Morrison and Murray have suggested that meaningful coincidences can be theorized as being often prodromal to delusional psychosis, in a process in which a sequence of unrelated events point to and confirm a “new reality” for vulnerable individuals (Morrison & Murray, 2009). In this understanding of the phenomenon, real-world events can trigger psychotic tendencies in predisposed individuals. Moreover, they have reported relevant neurobiological evidence illustrating the contribution (either positive or negative) of dopamine, D2 receptors, the basal ganglia, the endocannabinoid system, and the adenosine modulation system (Morrison & Murray, 2009). From their standpoint, abnormal memory traces can form the basis of delusion, as logically opposed thoughts become interwoven, creating new connections and new meanings.

Meaningful Coincidences & Psychological Well-Being

In the past few decades, life satisfaction has emerged as a broad self-reported indicator of psychological well-being in the mental health literature, in which individuals, based on their criteria, are asked to evaluate the quality of their lives (Hinz et al., 2018). From a theoretical standpoint, Steptoe and colleagues (2015), have proposed a tripartite taxonomy for subjective well-being: a) life satisfaction, or *evaluative* well-being, based on assessments of how satisfied individuals are with their life; b) affective, or *hedonic* well-being, based on varying moods and feelings (e.g. happiness, sadness, stress, anger, and pain); and c) *eudemonic* well-being, derived from a sense of purpose and meaning (Steptoe et al., 2015). In essence, subjective well-being represents an individual’s cognitions and feelings about their life and how fulfilling it is (Diener, 2012). Life

satisfaction has consistently been linked with longevity and physical health, social support, optimism, and positive affect. Conversely, it correlates negatively with physical illness, depression, and negative affect (Hinz et al., 2018).

Utilizing a “bottom-up” approach in which empirical data guided the development of a relevant REM theoretical model, Russo-Netzer & Icekson (2022) suggested that receptivity and openness to synchronicity (R), followed by exceptional encounters (E), and meaning-detecting (M) can explain the positive influence of meaningful experiences to individuals. First, utilizing a phenomenological exploratory study design that included 45 Israeli adults, they identified that synchronicity experiences were related to an increased sense of coherence, motivation, fulfillment of existential needs, and a sense of purpose. Expanding on their initial qualitative results, the same authors developed a relevant scale composed of two factors to assess synchronicity awareness (SA) and meaning-detecting (MD) in a quantitative manner (SAMD; Russo-Netzer & Icekson, 2023). In the first part of their validation study, which included 410 Israeli Jewish adults from the general national population, synchronicity experiences were associated with dispositional openness, presence of and search for meaning, ambiguity tolerance, extraversion, and agreeableness (order by strength of association). In the second part of their study, optimism and life satisfaction emerged as significant outcomes of synchronicity awareness. Moreover, there was also a weak yet significantly positive association between the phenomenon and increased levels of depression but not with anxiety (Russo-Netzer & Icekson, 2023). With regards to the possible adverse outcomes of synchronicity awareness, the authors discussed the possible presence of increased rumination and unnecessary over-interpretation, acknowledging that there is still limited

evidence that could clarify the boundaries between adaptive and non-adaptive experiences of synchronicity. Such mixed findings seem to parallel the twofold reported role of a broader search for meaning in well-being. Relevant studies have reported that the search for meaning can predict both increased satisfaction in life, as well as increased rumination, anxiety, and depression (Steger et al., 2008).

Russo-Netzer and Ickson's (2023) theoretical model, which was also supported with cross-sectional correlational evidence, suggests that awareness of synchronicity experiences leads to an increased sense of meaning and optimism, which in turn results to enhanced life satisfaction. Similarly, it has been reported that the presence of meaning is an important predictor for life satisfaction, particularly among those who search for it (Steger et al., 2011). For the Israeli adult population, the association between synchronicity experiences and life satisfaction was significant, yet of a small effect size (Russo-Netzer & Ickson, 2023). Similarly, among college students in Greece, the effect size in the relationship between coincidences and life satisfaction was small to average. In the later study, meaningful coincidences were also related to associative creativity, spirituality, and positive affect (Oikonomopoulos & Nega, 2021).

According to Russo-Netzer and Ickson's recently developed model, an openness to synchronicity experiences among individuals who search for meaning, results in enhanced presence of meaning and optimism, which ultimately explains enhanced life satisfaction. Admittedly, there is limited evidence to further confirm the authors' model, highlighting the need for further exploration of how and when such experiences can be adaptive or non-adaptive processes.

In accordance with the discussed findings from the Israeli population, Unger, and colleagues (2021), at the University of Graz, Austria, reported recently that among 115 young adult females, the propensity to experience meaningful coincidences was associated with adaptive coping strategies such as positive focusing and support-seeking. Furthermore, including neurological measures of grey-matter volume, they reported a negative association between meaningful coincidences and activity in the medial prefrontal cortex (mPFC), the inferior frontal gyrus (IFG), and the superior/inferior parietal cortex (SIPC), only for those with average or below average coping skills. These brain regions are related to a plethora of cognitive and emotional processes, including memory, affective processing, attribution of causality, decision-making, and attentional control, with the reported differences in grey-matter volume in these brain regions indicating alterations in neural activity patterns (Unger et al., 2021).

Moreover, researchers at the University of Missouri-Columbia, utilizing a sample composed of 280 college students, explored various correlates of coincidence experiences. In their results, they reported positive associations between meaningful coincidences and positive affect (PA) and vitality (VT), as well as with negative affect (NA) and referential thinking (RF). The correlations with the negative indices (NA and RF) had a stronger effect size compared to the positive ones (PA and VT; Coleman & Beitman, 2009). Whether positive or negative, emotional arousal seems to be closely related to the experience of the phenomenon. Do these heightened emotional states reflect positive vitality or alarming hypomania? And which could possibly be the underlying mechanisms explaining the process?

Emotion Regulation

Emotion regulation can be conceptualized as a twofold process in which antecedent-focused regulation (e.g. reappraisal) is followed, if necessary, by response-based modulation such as suppression (Gross & John, 2003). Overall, cognitive reappraisal has been linked with greater experience of positive affect and less experience of negative affect. By contrast, expressive suppression has been reported to lead to the experience of less positive affect, having no impact or increasing negative affect. Moreover, expressive suppression has been linked with increased rumination, whereas those who tend to utilize cognitive reappraisal do not dwell on overthinking and overanalyzing potentially meaningful, high-arousal situations (Gross & John, 2003; Nolen-Hoeksema et al., 1993). Clinically, mindfulness training, i.e. cultivating awareness and non-judgmental acceptance, has been reported to enhance emotion regulation through the mediating impact of increased executive control (Teper et al., 2013).

Some authors have discussed the demand for expressive suppression of emotions during high-arousal religious interactions such as rituals, and rites of passage. During or after such periods, individuals might be expected from their social environment to appear calm and confident, leading them to response-based regulation of emotions via suppressing their expression (Schjoedt et al., 2013). Interestingly, expressive suppression has also been linked with cognitive resource depletion, as it seems to utilize the same pool of brain resources responsible for attention and memory (Richards & Gross, 2000), a finding which could be in line with the association between the tendency to experience meaningful coincidences and reduced inhibition in working memory and increased posterior alpha power (Rominger et al, 2011; 2019). Moreover, the region associated with the propensity to experience meaningful coincidences in Unger and associates' study

(2021), the left medial prefrontal cortex, has been linked with stress reactivity and emotion regulation skills (Moreno-Lopez et al., 2019).

Although the association between synchronicity and high emotional states has been established to some extent, the role of meaning-making via coincidences in emotional coping remains complex and untangled, as it apparently can be either functional or non-functional (Unger et al., 2021). In Unger and colleagues' study, coincidences were associated with positive coping; however, due to insufficient reliability in the relevant subscale, they did not report on any possible associations between coincidences and maladaptive evasive coping (denial, self-blame, venting).

In a sample composed of 516 UK-based adult participants, paranormal experiences and beliefs were associated both with cognitive reappraisal and expressive suppression, however, the association with the latter maladaptive strategy was stronger compared to reappraisal (Drinkwater et al., 2022). It has been suggested that executive-control functions, expression of emotions, appraisal, and religious or anomalous experiences are influenced by the same frontal brain regions responsible for executive functioning (Drinkwater et al., 2022; Grafman et al., 2020; Schjoedt et al., 2013). Overall, paranormal beliefs have consistently been reported to correlate highly with coincidence experiences, with each concept overlapping to some extent with the other in the relevant nomenclature (Rominger et al., 2022).

Moderation Hypotheses

Emotion Regulation

Moderation variables can explain variations in the magnitude or even the direction of an established association. What factors could possibly moderate the

relationship between meaningful coincidences and psychological well-being? Unger and colleagues' study (2021) reported an association between meaningful coincidences and adaptive coping skills. Moreover, they found a moderating effect of coping skills in the relationship between meaningful coincidences and increased activity in certain brain regions. In particular, a negative association between coincidences and grey-matter volume in the inferior frontal gyrus, the medial prefrontal cortex, and the superior/inferior parietal cortex was present only among those with below-average and average coping skills. The use of these coping skills (acceptance, reframing, or humor) moderated the association between decreased inhibition, lack of cognitive control, (as indicated but the less active brain regions), and an increased susceptibility to find meaning in coincidences (Unger et al., 2021). In short, Unger and colleagues (2021) identified coping skills as a moderator between coincidences and brain anatomy in their female sample. Reporting a mediating rather than a moderating effect, Russo-Netzer and Icekson (2023), indicated that optimism and the presence of meaning mediate the relationship between meaningful coincidences and life satisfaction.

Dispositional emotion regulation is a relevant construct of coping skills. It taps into two different strategies, reappraisal, and suppression. Cognitive reappraisal has been linked with greater self-esteem, optimism, and life satisfaction, whereas the association of expressive suppression with such indicators of well-being has been negative (Gross & John, 2003). As already discussed, meaningful coincidences seem to occur around moments of increased affectivity and vitality, regardless of their positive or negative valence (Beitman & Shaw, 2009). It seems reasonable to assume that the intertwined experience of meaningful coincidences and intense emotionality might require

individuals to regulate their emotions. Accordingly, the extent to which an individual will habitually utilize adaptive strategies (such as reappraisal), or problematic response-based ones (such as expressive suppression), seems a plausible underlying factor in the relationship between synchronicity experiences which seem to be inherently high in affectivity, and psychological well-being.

Spirituality

This recently amplified scientific interest in synchronicity has been suggested by some authors as being part of a broader sociocultural turn from traditional religion to individualized modes of spirituality, including an individualized search for meaning (Sacco, 2020). Individuals who tend to experience coincidences more commonly have been reported to frequently adhere to a religious or spiritual system, including values, beliefs, and practices (Coleman & Beitman, 2009). What happens when some individuals with low spiritual beliefs and a secular worldview encounter meaningful coincidences that challenge their worldview? In a study that included 681 adult US individuals, synchronicity experiences were associated with spirituality and religiosity, along with religious and spiritual coping, reflecting the conceptual overlap between coincidences and spiritual experiences (Coleman et al., 2009). Dr. Beitman has argued that independent of spiritual orientation, coincidences can occur among referential-thinkers, but also among individuals who are relatively normal and who are open to the symbolic communication of coincidences, similar to how they could find personal meaning and a useful commentary in conversations with friends, inspiring books and movies, and religious-spiritual encounters (Beitman & Shaw, 2009).

William James has argued that the “subjective rationality of experience” is at the core of our stream of consciousness (James, 1893). In other words, an individual’s own perception that life is coherent, that it makes sense, and that it has meaning, contrasts with a life that would otherwise feel lost, aimless, and without purpose or direction. Conceptually, synchronicity awareness and the detection of meaning through relevant experiences appear to be a subset of a broader spiritual worldview, as discussed in the introduction of the present paper. Whether drawing from Jungian, new age, religious, or non-religious spiritual worldviews, it seems reasonable to assume that the presence of a relatively structured spiritual compass in which such experiences can be integrated will be beneficial for individuals who report themselves as high in spirituality. Conversely, individuals who despite their secular, atheist, low in spirituality worldview, attend to coincidences and contemplate their meaning, might be challenged in the absence of an explanatory framework and fail to regulate their emotions, resulting in decreased overall psychological well-being.

Purpose of the study

If some people are more prone to experience coincidences as meaningful, does this trait, then, foster their development of insight and growth, or could it exacerbate paranoid ideation and ideas of reference? Since the ascription of personal meaning in external events relies phenomenologically on the individual, how can we, as external researchers or practitioners best differentiate forms of adaptive synchronicity meaning-making from pathology-indicating magical thinking, such as “misfortune happened to X because I thought intensely bad about them”?

The present study aims to investigate the impact of synchronicity experiences on psychological well-being, as well as to explore the underlying mechanisms in the association. This study contributes to the emerging literature on meaningful coincidences and synchronicity, by focusing on their role in mental health. Are they beneficial or problematic? And what are the possible determinants of the association? Building on previous studies (Gross & John, 2003; Russo-Netzer & Icekson, 2023; Unger et al., 2021), the following hypotheses were developed: First, synchronicity experiences would predict higher levels of psychological well-being, as indicated by higher levels of self-reported positive affect and life satisfaction. The relationship between synchronicity experiences and paranoid ideation, emotion regulation strategies (cognitive reappraisal and expressive suppression), and negative affect was assessed in an exploratory non-directional manner, considering the limited and mixed findings in the literature (Coleman & Beitman, 2009; Oikonomopoulos & Nega, 2021). Second, it was expected that the relationship between synchronicity experiences and life satisfaction would be moderated by emotion regulation strategies, with cognitive reappraisal strengthening the association and expressive suppression weakening if not impacting its presence. Moreover, a third hypothesis for spirituality was developed, expecting it to moderate positively the impact of synchronicity experiences on life satisfaction (see Figure 1). Finally, the potential role of age and gender in the aforementioned hypotheses was also explored.

Method

Participants

Utilizing the software GPower 3.1 (Faul et al., 2009), an a priori calculated analysis of power suggested that a sample size composed of 110 individuals would be

sufficient to detect an effect of medium size ($f^2 = .15$) for a regression model with two predictors. Accordingly, 112 adults (65 female) participated in this study. Their age ranged between 18 and 71 years ($M = 33.26$, $SD = 12$), whilst the majority were Greek (68%). Participants were recruited online from the Deree population and online communities, utilizing a non-probability convenience sampling procedure.

Materials

Demographic Questionnaire. Participants were first asked to complete a brief demographic questionnaire, including questions regarding their age, gender, ethnicity, along with measures of religiosity and spirituality (Appendix A). For the two single-item self-report measures for religiosity and spirituality the items from the robustly validated widely used Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS; Fetzer Institute, 1999) were utilized.

Synchronicity Awareness and Meaning-Detecting. The recently developed Synchronicity Awareness and Meaning-Detecting (SAMD; Russo-Netzer & Icekson, 2023) scale was utilized to assess the occurrence and the ascription of meaning in synchronicity experiences (Appendix B). The SAMD is a 22-item questionnaire composed of two factors: the 9-item synchronicity-awareness (SA) subscale, including items such as “*I thought about a particular idea and then I saw it as an external image (e.g., a quote, an ad, or a song)*”, rated on a 6-point Likert scale (0 = *never*, 1 = *once*, 2 = *twice or more*, 3 = *rarely*, 4 = *often*, 5 = *all the time*); and the 13-item meaning-detecting (MD), subscale with items such as “*I sometimes feel that the environment sends me signals*”, rated on a 7-point Likert scale ranging from 1 = “*not at all*” to 7 = “*to a high degree*”). For the SA subscale, higher scores represent an increased frequency of

experiencing coincidences, whereas higher scores in the MD subscale indicate a heightened subjective ascription of meaning to coincidence events. In the scale's original validation study, the authors reported high levels of internal consistency for the two subscales ($\alpha = 0.87$ and $\alpha = 0.93$, respectively), as well as good convergent and discriminant validity (Russo-Netzer & Icekson, 2023). In the present study, alpha values were 0.84 for SA and 0.91 for MD.

Paranoid Ideation. The six-item paranoid ideation subscale (PAR-6) from the Symptom Checklist (SCL-90) was utilized to assess participants' tendencies of paranoid ideation. Participants rated the extent they have been bothered/distressed by a list of problems and complaints (e.g. *Feeling that you are watched or talked about by others*) by providing their responses on a 5-point Likert scale, ranging from 0 = "not at all" to 4 = "extremely". The SCL-90 is a widely used tool with established psychometric properties (Tian et al., 2020). In the present study, the PAR-6 subscale yielded acceptable reliability with an alpha value of 0.74.

Emotion Regulation. To assess participants' dispositional emotion regulation strategies, the Emotion Regulation Questionnaire was utilized (ERQ; Gross & John, 2003). The scale includes two subscales, each one assessing a different emotion regulation strategy: cognitive reappraisal (6 items, e.g., *"When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm."*) and expressive suppression (4 items, e.g., *"When I am feeling negative emotions, I make sure not to express them."*). Participants responded by providing their agreement with each item on a 7-point Likert scale, ranging from 1 = "strongly disagree" to 7 = "strongly agree" (see Appendix C). Higher scores in each subscale indicate an increased tendency to utilize the

relevant emotion regulation strategy. The ERQ is a widely used tool with robust evidence regarding its psychometric properties, with previous studies reporting reliability indices of $\alpha = 0.87$ for the cognitive reappraisal subscale and $\alpha = 0.71$ for the expressive suppression (Kneeland et al., 2016). In the current study's sample, the alpha values were 0.86 for cognitive reappraisal and 0.77 for expressive suppression.

Affective Experiences. The Positive Affect Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) was utilized to assess participants' levels of positive and negative affective experiences. This widely used instrument (Appendix D) includes two subscales of ten items each, describing different positive (e.g. *proud, enthusiastic*) and negative (e.g. *afraid, ashamed*) emotions. Participants rated the extent that each word describes their feelings in the past two weeks, on a 5-point Likert scale ranging from 1 = "*very slightly or not at all*" to 5 = "*extremely*". The two subscales were calculated separately, with higher scores reflecting increased positive or negative affect for each participant. In Crawford and Henry's (2004) validation study, the reliability was excellent, with Cronbach's alpha values of $\alpha = .89$ for PA and $\alpha = .85$ for NA. In the present study, the alpha values were 0.87 for PA, and 0.93 for NA.

Life Satisfaction. To assess participant's levels of life satisfaction, the Satisfaction With Life Scale (SWLS) was utilized (Diener et al., 1985). This 5-item questionnaire includes items such as "*In most ways my life is close to my ideal*" which participants rated on a 7-point Likert scale ranging from 1 = "*strongly disagree*" to 7 = "*strongly agree*" (Appendix E), with higher levels indicating higher levels of satisfaction with life. The SWLS is a well-validated and widely used tool with most studies reporting

Cronbach's α levels ranging from 0.85 to 0.92 (Hinz et al., 2018). In the present study the Cronbach's alpha value was 0.87.

Procedure

A cross-sectional survey design was utilized to collect evidence relevant to participants' self-reported synchronicity awareness and meaning detecting and its capacity to predict psychological well-being. The study received ethical approval from the Institutional Review Board of the American College of Greece. Participants were invited to participate in the study which was administered online. Utilizing a convenience non-probability sampling procedure, participants were drawn from the college's undergraduate and graduate levels and from affiliated online communities. First, participants were introduced to an Informed Consent form that included a simplified description of the study's purpose, its procedure, risks and benefits, their rights to anonymity and the voluntary nature of participation, (Appendix F). Apart from the demographics questionnaire, which was presented initially for all participants, the ordering of completing the following scales was randomized across participants: SAMD, PAR-6, ERQ, PANAS, SWLS. Completion of materials lasted on average 15 minutes. At the end, participants were handed out a detailed debriefing statement that included the research questions and hypotheses of the study, relevant studies, contact details of the Counseling Center of the college in case they experienced any distress, along with a restatement of their rights to withdraw from the study and the contact information of the researcher (see Appendix G).

Statistical Analyses

First, reliability analyses, descriptive statistics, and exploratory Pearson correlations were calculated for all the study's variables (Tables 1 & 2). The internal reliability of the scales utilized (SAMD, ERQ, PANAS, SWLS) was assessed via Cronbach's alpha analyses. To test the study's first hypothesis, the association between SAMD and indices of psychological well-being (paranoid ideation, cognitive reappraisal, expressive suppression, positive and negative affect, and life satisfaction) six separate multiple regression analyses were conducted for SA and MD. Then, moderation hypotheses for emotion regulation and spirituality were assessed via a series of multiple regression analyses utilizing the standard scores of the predictors (SA and MD), along with their interaction terms with each respective moderator (cognitive reappraisal, expressive suppression, and spirituality). Exploratory hypotheses related to the capacity of age and gender to influence the association between synchronicity experiences and psychological outcomes were also considered. For all regression analyses, assumptions of normality, linearity, multicollinearity and homoscedasticity were evaluated. Per the study's design, causality was not assumed. All analyses were conducted utilizing the IBM statistical software SPSS v.24, except for the moderation analyses which were performed utilizing the open-access software Jamovi v.2.3, implementing the "medmod" package.

Results

Impact of Synchronicity Experiences on Psychological Outcomes

Paranoid Ideation. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict paranoid ideation levels. The analysis revealed that the regression model was not significant, $R^2 = 0.023$, $F(2,109) = 1.307$, $p = 0.275$. Synchronicity awareness ($b = -$

0.018, $p = 0.870$) and meaning detection ($b = 0.162$, $p = 0.149$) did not contribute significantly to the model. In our sample, participants who scored high on either of the two synchronicity subscales were not more prone to paranoid ideation.

Cognitive Reappraisal. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict cognitive reappraisal levels. The analysis revealed that the regression model was not significant, $R^2 = 0.043$, $F(2,109) = 2.459$, $p = 0.090$. Synchronicity awareness ($b = -0.212$, $p = 0.054$) and meaning detection ($b = 0.204$, $p = 0.067$) did not contribute significantly to the model. In our sample, participants who scored high on either of the two synchronicity subscales did not utilize more frequently cognitive reappraisal. However, a non-significant trend towards significance was observed, with synchronicity awareness potentially contributing negatively to cognitive reappraisal, and meaning detection positively.

Expressive Suppression. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict expressive suppression levels. The analysis revealed that the regression model was not significant, $R^2 = 0.019$, $F(2,109) = 1.044$, $p = 0.356$. Synchronicity awareness ($b = -0.097$, $p = 0.389$) and meaning detection ($b = -0.059$, $p = 0.598$) did not contribute significantly to the model. In our sample, participants who scored high on either of the two synchronicity subscales were not more inclined to utilize expressive suppression as an emotion regulation strategy.

Positive Affect. standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to

predict positive affect levels. The analysis revealed a significant regression model, as both predictors explained 8.6% of the variance in positive affect levels, $R^2 = 0.086$, $F(2,109) = 5.120$, $p = 0.007$. In particular, synchronicity awareness did not contribute significantly ($b = -0.028$, $p = 0.798$), whereas the contribution of meaning detection was significant and positive ($b = 0.307$, $p = 0.005$). As hypothesized, for participants of the present study, the detection of meaning in synchronicity experiences predicted higher levels of positive affect, whereas synchronicity awareness alone did not.

Negative Affect. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict negative affect levels. The analysis revealed that the regression model was not significant, $R^2 = 0.015$, $F(2,109) = 0.819$, $p = 0.444$. Synchronicity awareness ($b = 0.097$, $p = 0.386$) and meaning detection ($b = -0.140$, $p = 0.212$) did not contribute significantly to the model. In our sample, participants who scored high on either of the two synchronicity subscales did not report higher levels of negative affect.

Life Satisfaction. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict life satisfaction levels. The analysis revealed that the regression model was not significant, $R^2 = 0.035$, $F(2,109) = 1.199$, $p = 0.142$. Synchronicity awareness ($b = 0.025$, $p = 0.822$) and meaning detection ($b = 0.173$, $p = 0.120$) did not contribute significantly to the model. Contrary to the hypothesized presence of an association, participants who scored high on either of the two synchronicity subscales did not report significantly higher levels of life satisfaction.

Moderation Analyses for Emotion Regulation and Spirituality

Do cognitive reappraisal, expressive suppression, or spirituality moderate the association between synchronicity experiences and psychological outcomes? The results regarding the three hypotheses on the moderating effect of emotion regulation (cognitive reappraisal and expressive suppression) and spirituality on the association synchronicity experiences (SA & MD) and psychological outcomes (paranoid ideation, PA, NA, life satisfaction) are presented in Tables 3, 4, and 5 respectively. Significant findings emerged for cognitive reappraisal and spirituality, and their moderating impact on the association between meaning detection and life satisfaction. Multiple regression analyses revealed that the positive impact of meaning-detection on life satisfaction was only present for participants that utilize cognitive reappraisal on an above average level (Figure 2), as well as for those with an average or above average self-reported spirituality (Figure 3). All other moderation analyses failed to achieve significance.

Exploratory Analyses on Age

Does Age Predict Synchronicity Experiences and Psychological Outcomes?

First, the impact of age on synchronicity awareness, meaning detection, paranoid ideation, cognitive reappraisal, expressive suppression, positive affect, negative affect, and life satisfaction was investigated with a series of exploratory linear regressions.

A simple linear regression analysis was used to assess the capacity of age to explain synchronicity awareness levels. The results of the regression model indicated that age explained in a significant manner 6.2% of the variance in synchronicity awareness, $R^2 = 0.062$. $F(1,110) = 7.300$, $p = 0.008$; $b = 0.017$. The older the age of the participants in our study, the greater their propensity to experience an increased synchronicity awareness.

A simple linear regression analysis was used to assess the capacity of age to explain meaning detection. The results of the regression model indicated that age explained in a significant manner 7.5% of the variance in meaning detection, $R^2 = 0.075$. $F(1,110) = 8.929$, $p = 0.003$; $b = 0.023$. The older the age of the participants in our study, the greater their tendency to detect meaning in synchronicity experiences.

A simple linear regression analysis was used to assess the capacity of age to explain paranoid ideation. The results of the regression model indicated that age explained in a significant manner 7.8% of the variance in paranoid ideation, $R^2 = 0.078$. $F(1,110) = 9.341$, $p < 0.001$; $b = -0.018$. Paranoid ideation was revealed to decrease with age in our sample.

A simple linear regression analysis was used to assess the capacity of age to explain cognitive reappraisal. The regression model was not significant. $R^2 = 0.003$. $F(1,110) = 0.385$, $p = 0.536$; $b = -0.006$. Age did not predict cognitive reappraisal in the present study.

A simple linear regression analysis was used to assess the capacity of age to explain expressive suppression. The results of the regression model indicated that age explained in a significant manner 7.7% of the variance in expressive suppression, $R^2 = 0.077$. $F(1,110) = 9.222$, $p = 0.003$; $b = -0.030$. Expressive suppression was revealed to decrease with age in our study.

A simple linear regression analysis was used to assess the capacity of age to explain positive affect. The regression model was not significant. $R^2 = 0.011$. $F(1,110) = 1.205$, $p = 0.275$; $b = 0.007$. Age did not predict positive affect in our sample.

A simple linear regression analysis was used to assess the capacity of age to explain negative affect. The regression model was not significant. $R^2 = 0.025$. $F(1,110) = 2.856$, $p = 0.094$; $b = -0.012$. Age did not predict negative affect in a significant manner in our sample.

A simple linear regression analysis was used to assess the capacity of age to explain life satisfaction. The regression model was not significant. $R^2 = 0.004$. $F(1,110) = 1.205$, $p = 0.502$; $b = 0.007$. Age did not predict life satisfaction in our sample.

Does Age Moderate the Impact of Synchronicity Experiences on Psychological Outcomes?

A series of multiple moderation regression analyses were performed to assess the moderating impact of age in the associations between synchronicity experiences and psychological outcomes.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship between synchronicity awareness and paranoid ideation. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = 0.002$, $SE = 0.007$, $Z = 0.306$, $p = 0.759$), indicating that the relationship between synchronicity awareness and paranoid ideation was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and paranoid ideation. The results of the analysis revealed that the interaction between meaning detection and age was not

significant ($b = 0.005$, $SE = 0.005$, $Z = 0.923$, $p = 0.356$), indicating that the relationship between meaning detection and paranoid ideation was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship between synchronicity awareness and cognitive reappraisal. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = 0.015$, $SE = 0.010$, $Z = 1.513$, $p = 0.130$), indicating that the relationship between synchronicity awareness and cognitive reappraisal was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and cognitive reappraisal. The results of the analysis revealed that the interaction between meaning detection and age was not significant ($b = 0.012$, $SE = 0.007$, $Z = 1.607$, $p = 0.108$), indicating that the relationship between meaning detection and cognitive reappraisal was not moderated by age in a significant way.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship between synchronicity awareness and expressive suppression. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = -0.017$, $SE = 0.011$, $Z = -1.599$, $p = 0.110$), indicating that the relationship between synchronicity awareness and expressive emotional suppression was not moderated by age in a significant way.

Regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and expressive suppression. The results of the analysis revealed that the interaction between meaning detection and age was not significant ($b = -0.008$, $SE = 0.008$, $Z = -0.975$, $p = 0.329$), indicating that the relationship between meaning detection and expressive emotional suppression was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship between synchronicity awareness and positive affect. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = 0.011$, $SE = 0.007$, $Z = 1.609$, $p = 0.108$), indicating that the relationship between synchronicity awareness and positive affect was not moderated by age in a significant manner.

Regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and positive affect. The results of the analysis revealed that the interaction between meaning detection and age was not significant ($b = 0.003$, $SE = 0.005$, $Z = 0.674$, $p = 0.500$), indicating that the relationship between meaning detection and positive affect was not moderated by age in a significant way.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship

between synchronicity awareness and negative affect. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = 0.008$, $SE = 0.008$, $Z = 0.925$, $p = 0.355$), indicating that the relationship between synchronicity awareness and negative affect was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and negative affect. The results of the analysis revealed that the interaction between meaning detection and age was not significant ($b = 0.007$, $SE = 0.006$, $Z = 1.154$, $p = 0.248$), indicating that the relationship between meaning detection and negative affect was not moderated by age.

Regression moderation analysis was conducted utilizing the interaction terms for synchronicity awareness and age to assess the moderating role of age on the relationship between synchronicity awareness and life satisfaction. The results of the analysis revealed that the interaction between synchronicity awareness and age was not significant ($b = 0.001$, $SE = 0.011$, $Z = 0.091$, $p = 0.927$), indicating that the relationship between synchronicity awareness and life satisfaction was not moderated by age.

Finally, regression moderation analysis was conducted utilizing the interaction terms for meaning detection and age to assess the moderating role of age on the relationship between meaning detection in synchronicity and life satisfaction. The results of the analysis revealed that the interaction between meaning detection and age was not significant ($b = 0.008$, $SE = 0.008$, $Z = 1.000$, $p = 0.317$), indicating that the relationship between meaning detection and life satisfaction was not moderated by age.

In sum, all twelve interaction analyses for age (2x6) with two separate predictors (synchronicity awareness and meaning detection) and 6 different outcomes (paranoid ideation, cognitive reappraisal, expressive suppression, positive affect, negative affect, and life satisfaction) failed to reach significance at the $p = 0.05$ level.

Exploratory Analyses on Gender

Do Males and Females Differ in Synchronicity Experiences and Psychological Outcomes?

First, a series of exploratory independent-samples t tests were performed to assess any gender differences in synchronicity awareness, meaning detection, as well as in paranoid ideation, emotion regulation (cognitive reappraisal & expressive suppression), positive and negative affect, and life satisfaction. Although not directly related with the aim of this study, these analyses were performed in order to assess the overall gender differences in the relevant constructs. For all analyses, normality was assumed given a sample size greater than 30 participants (47 males; 65 females); moreover, a Levene's test revealed no violation of the assumption of homogeneity of variances for all comparisons ($p > 0.05$).

An independent-samples t-test was performed to compare synchronicity awareness between males ($M = 2.66$, $SD = 0.73$) and females ($M = 2.91$, $SD = 0.88$). The analysis revealed no significant difference on the scores of the two groups, $t(110) = 1.57$, $p = 0.119$.

An independent-samples t-test was performed to compare meaning detection in coincidences between males ($M = 4.76$, $SD = 0.95$) and females ($M = 5.14$, $SD = 0.99$). The analysis revealed a significant difference between the scores of the two groups,

$t(110) = 2.02, p = 0.046$, as females reported higher meaning detection in coincidences than males on average.

An independent-samples t-test was performed to compare paranoid ideation between males ($M = 1.29, SD = 0.73$) and females ($M = 1.61, SD = 0.81$). The analysis revealed a significant difference between the scores of the two groups, $t(110) = 2.09, p = 0.038$, as females reported on average higher paranoid ideation levels than males.

An independent-samples t-test was performed to compare cognitive reappraisal levels between males ($M = 4.52, SD = 1.17$) and females ($M = 4.52, SD = 1.11$). The analysis revealed no significant difference on the scores of the two groups, $t(110) = 0.20, p = 0.984$.

An independent-samples t-test was performed to compare expressive suppression between males ($M = 3.70, SD = 1.26$) and females ($M = 3.25, SD = 1.27$). The analysis revealed no significant difference on the scores of the two groups, $t(110) = 1.86, p = 0.065$.

An independent-samples t-test was performed to positive affect levels between males ($M = 3.21, SD = 0.78$) and females ($M = 3.23, SD = 0.73$). The analysis revealed no significant difference on the scores of the two groups, $t(110) = 0.16, p = 0.873$

An independent-samples t-test was performed to compare negative affect levels between males ($M = 2.05, SD = 0.91$) and females ($M = 2.21, SD = 0.94$). The analysis revealed no significant difference on the scores of the two groups, $t(110) = 0.92, p = 0.360$

An independent-samples t-test was performed to compare life satisfaction levels between males ($M = 4.57, SD = 1.16$) and females ($M = 4.32, SD = 1.30$). The analysis

revealed no significant difference on the scores of the two groups, $t(110) = 1.04$, $p = 0.298$

In sum, females scored on average higher than males on meaning detection in synchronicities, as well as in paranoid ideation. No other significant differences were observed between the two groups.

Are There Any Gender Differences on the Impact of Synchronicity Experiences on Psychological Outcomes?

To assess any gender differences in the associations between the two predictors (synchronicity awareness and meaning detection) and the six outcomes (paranoid ideation, cognitive reappraisal, expressive suppression, positive affect, negative affect, and life satisfaction), a total of 24 multiple regressions were performed, 12 for each gender separately (2x2x6).

Impact of Synchronicity Experiences on Paranoid Ideation for Males.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict paranoid ideation levels. The analysis revealed that the regression model was not significant, $R^2 = 0.069$, $F(2,44) = 1.618$, $p = 0.210$. Synchronicity awareness ($b = 0.101$, $p = 0.540$) and meaning detection ($b = 0.200$, $p = 0.229$) did not contribute significantly to the model. In our sample, males who scored high on either of the two synchronicity subscales were not more prone to paranoid ideation.

Impact of Synchronicity Experiences on Paranoid Ideation for Females.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict paranoid ideation

levels. The analysis revealed that the regression model was not significant, $R^2 = 0.008$, $F(2,62) = 0.245$, $p = 0.784$. Synchronicity awareness ($b = -0.094$, $p = 0.535$) and meaning detection ($b = 0.092$, $p = 0.546$) did not contribute significantly to the model. In our sample, females who scored high on either of the two synchronicity subscales were not more prone to paranoid ideation.

Impact of Synchronicity Experiences on Cognitive Reappraisal for Males.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict cognitive reappraisal levels. The analysis revealed a significant regression model, as both predictors explained 17.8% of the variance of cognitive reappraisal levels among males, $R^2 = 0.178$, $F(2,44) = 4.755$, $p = 0.014$. Both synchronicity awareness ($b = -0.377$, $p = 0.018$) and meaning detection ($b = 0.428$, $p = 0.008$) contributed significantly. For male participants in our sample, synchronicity awareness predicted decreases in cognitive reappraisal, whereas meaning detection predicted an increase in cognitive reappraisal levels.

Impact of Synchronicity Experiences on Cognitive Reappraisal for Females.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict cognitive reappraisal levels. The analysis revealed that the regression model was not significant, $R^2 = 0.006$, $F(2,62) = 0.179$, $p = 0.837$. Synchronicity awareness ($b = -0.082$, $p = 0.588$) and meaning detection ($b = 0.014$, $p = 0.928$) did not contribute significantly to the model. In our sample, females who scored high on either of the two synchronicity subscales did not utilize more frequently cognitive reappraisal.

Impact of Synchronicity Experiences on Expressive Suppression for Males.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict expressive suppression levels. The analysis revealed that the regression model was not significant, $R^2 = 0.019$, $F(2,44) = 0.428$, $p = 0.655$. Synchronicity awareness ($b = -0.118$, $p = 0.485$) and meaning detection ($b = -0.035$, $p = 0.834$) did not contribute significantly to the model. In our sample, males who scored high on either of the two synchronicity subscales were not more inclined to utilize expressive suppression as an emotion regulation strategy.

Impact of Synchronicity Experiences on Expressive Suppression for Females.

Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict expressive suppression levels. The analysis revealed that the regression model was not significant, $R^2 = 0.008$, $F(2,62) = 0.264$, $p = 0.768$. Synchronicity awareness ($b = -0.068$, $p = 0.654$) and meaning detection ($b = -0.035$, $p = 0.817$) did not contribute significantly to the model. In our sample, females who scored high on either of the two synchronicity subscales were not more inclined to utilize expressive suppression as an emotion regulation strategy.

Impact of Synchronicity Experiences on Positive Affect for Males. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict positive affect levels. The analysis revealed a significant regression model, as both predictors explained 16% of the variance in positive affect levels, $R^2 = 0.160$, $F(2,44) = 4.194$, $p = 0.022$. In particular,

synchronicity awareness did not contribute significantly ($b = -0.023$, $p = 0.883$), whereas the contribution of meaning detection was significant and positive ($b = 0.410$, $p = 0.011$). For male participants of the present study, the detection of meaning in synchronicity experiences predicted higher levels of positive affect, whereas synchronicity awareness alone did not.

Impact of Synchronicity Experiences on Positive Affect for Females. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict positive affect levels. The analysis revealed that the regression model was not significant, $R^2 = 0.047$, $F(2,62) = 1.535$, $p = 0.224$. Synchronicity awareness ($b = -0.006$, $p = 0.965$) and meaning detection ($b = 0.221$, $p = 0.141$) did not contribute significantly to the model. For females, neither synchronicity awareness nor the detection of meaning in synchronicity experiences predicted higher levels of positive affect in a significant way.

Impact of Synchronicity Experiences on Negative Affect for Males. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict negative affect levels. The analysis revealed that the regression model was not significant, $R^2 = 0.024$, $F(2,44) = 0.545$, $p = 0.584$. Synchronicity awareness ($b = 0.150$, $p = 0.376$) and meaning detection ($b = -0.149$, $p = 0.379$) did not contribute significantly to the model. In our sample, males who scored high on either of the two synchronicity subscales did not report higher levels of negative affect.

Impact of Synchronicity Experiences on Negative Affect for Females. Standard multiple regression was used to assess the capacity of the two coincidences

variables (synchronicity awareness and meaning detection) to predict negative affect levels. The analysis revealed that the regression model was not significant, $R^2 = 0.018$, $F(2,62) = 0.575$, $p = 0.565$. Synchronicity awareness ($b = 0.056$, $p = 0.711$) and meaning detection ($b = -0.157$, $p = 0.300$) did not contribute significantly to the model. In our sample, females who scored high on either of the two synchronicity subscales did not report higher levels of negative affect.

Impact of Synchronicity Experiences on Life Satisfaction for Males. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict life satisfaction levels. The analysis revealed that the regression model was not significant, $R^2 = 0.114$, $F(2,44) = 2.841$, $p = 0.069$. Synchronicity awareness ($b = 0.056$, $p = 0.727$) and meaning detection ($b = 0.309$, $p = 0.059$) did not contribute significantly to the model, although for meaning detection there was a trend towards a positive significant association. Contrary to the hypothesized presence of an association, males who scored high on either of the two synchronicity subscales did not report significantly higher levels of life satisfaction.

Impact of Synchronicity Experiences on Life Satisfaction for Females. Standard multiple regression was used to assess the capacity of the two coincidences variables (synchronicity awareness and meaning detection) to predict life satisfaction levels. The analysis revealed that the regression model was not significant, $R^2 = 0.019$, $F(2,62) = 0.591$, $p = 0.557$. Synchronicity awareness ($b = 0.037$, $p = 0.806$) and meaning detection ($b = 0.113$, $p = 0.455$) did not contribute significantly to the model. Contrary to the hypothesized presence of an association, females who scored high on either of the two synchronicity subscales did not report significantly higher levels of life satisfaction.

How Does Gender Contribute to the Moderating Impact of Emotion Regulation & Spirituality?

To assess any gender differences on the moderating impact of emotion regulation strategies on the association between synchronicity experiences and psychological outcomes, the same moderation analyses that were performed for the entire sample, were conducted again for each gender separately. The results of the regression analyses for the interaction terms are presents in tables 6, 7, 8 for males, and 9, 10, 11 for females.

For males, the positive association between synchronicity awareness and paranoid ideation was present only among those who utilize cognitive reappraisal above average (see Figure 4). Expressive suppression did not yield any significant moderating effects. With regards to spirituality, there was observed a bidirectional effect between synchronicity awareness and expressive suppression: for males with below average spirituality, the association between synchronicity awareness and expressive suppression was positive: increased synchronicity awareness predicted higher expressive suppression; conversely, an above average spirituality enabled a negative association between synchronicity awareness and expressive suppression, as increased synchronicity awareness predicted lower expressive suppression (see Figure 5).

For females, cognitive reappraisal moderated significantly the associations between meaning detection (predictor) and expressive suppression, negative affect, and life satisfaction (outcomes). For females who utilize on a below average level cognitive reappraisal, there was a negative association between meaning-detection and expressive suppression, as well as negative affect: in other words, an increased meaning detection predicted decreases in both their expressive suppression and negative affect levels, only if

they utilized cognitive reappraisal on a below average level. (see Figures 6 and 7). Moreover, for females who utilize above average cognitive reappraisal, there was a significant positive impact of meaning detection in their life satisfaction levels: increases in meaning detection predicted higher life satisfaction (see Figure 8). Finally, expressive suppression and spirituality did not moderate significantly any of the associations between the two synchronicity predictors and any of psychological outcomes.

Discussion

The purpose of the present study was to investigate the experience of meaningful coincidences and its associated psychological outcomes. Meaningful coincidences were explored in a twofold manner, focusing both on synchronicity awareness and meaning detection, whereas psychological outcomes included paranoid ideation, emotion regulation strategies (cognitive reappraisal and expressive suppression), affective states (positive and negative), as well as life satisfaction. Via utilizing both adaptive (cognitive reappraisal, positive affect, life satisfaction), as well as risk-indicating (paranoid ideation, expressive suppression, negative affect) variables, we endeavored to capture a wide range of experiences in our attempt to understand in-depth the role of synchronicity in individuals' psychological well-being.

The first hypothesis of the study was concerned with the impact of synchronicity awareness and meaning detection on psychological outcomes. Based on previous studies (e.g. Coleman & Beitman, 2009; Oikonomopoulos & Nega, 2021; Russo-Netzer & Icekson, 2023) it was hypothesized that higher scores in both synchronicity subscales would predict increases in positive affect and life satisfaction. Moreover, considering the limited and mixed relevant evidence, the association between synchronicity experiences

and paranoid ideation, emotion regulation strategies (cognitive reappraisal & expressive suppression), and negative affect, was explored in an exploratory non-directional manner (Coleman & Beitman, 2009; Unger et al., 2021).

The second hypothesis of this study explored the possible moderating effect of emotion regulation on the association between synchronicity experiences and psychological outcomes. Unger and associates from the University of Graz, Austria, in a female-only sample, reported a negative association between the propensity to experience meaningful coincidences and grey matter volume in certain brain regions responsible for causality detection and cognitive control that was moderated by coping strategies (Unger et al., 2021). In particular, only for individuals with average or below-average coping skills, the reported negative association between meaningful coincidences and brain activity was present. Utilizing a similar construct (emotion regulation) we hypothesized that individuals who tend to utilize an adaptive coping mechanism (cognitive reappraisal) on an above average level would experience a positive impact in their psychological well-being from meaningful coincidences. Conversely, expressive suppression was expected to contribute negatively to the association, weakening the positive impact of meaningful coincidences or even changing its direction (towards a negative association).

A third hypothesis of this study was developed, including the relevant construct of spirituality. Following the theoretical and applied work of Dr. Beitman on coincidence studies (Beitman 2009; Beitman & Shaw 2009; Coleman & Beitman 2009), as well as relevant evidence on the positive association and potential overlap between coincidences and spirituality (Oikonomopoulos & Nega, 2021), we expected that for individuals who report high levels of spirituality, the positive impact of synchronicity experiences on

psychological well-being would be magnified, compared to those with low spirituality. The latter are hypothesized theoretically to lack a spiritual structure as a compass to integrate experiences of meaningful coincidences.

Finally, we were interested to explore the contributing influence of basic demographics (age & gender) on phenomenon of meaningful coincidences and our hypotheses. Since Unger and colleagues' sample was composed only of females (Unger et al., 2021), and after an apparent lack of reported evidence on the possible gender differences on meaningful coincidences and its outcomes, we explored non-directionally the impact of age and gender on the phenomenon and its associations.

Major Findings & Comparison with Previous Studies

Hypothesis 1: Synchronicity Experiences & Psychological Outcomes

With regards to the first hypothesis of this study, i.e. the impact of synchronicity experiences on psychological outcomes, it was partially confirmed. Paranoid ideation was not significantly associated with either of the two synchronicity subscales in our sample. In addition, emotion regulation strategies were not found to be significantly associated with synchronicity experiences. Neither cognitive reappraisal nor expressive suppression were significantly predicted by either of the two synchronicity dimensions.

Our analyses revealed a significant and positive impact of meaning detection in our participants' levels of positive affect. Individuals who reported an increased propensity to detect meaning in synchronicity experiences, were found to have elevated levels of positive affect. The effect size of our analysis was moderate ($b > 0.3$), indicating that the observed association is most likely robust and not attributable to chance. The impact of synchronicity awareness on positive affect was not significant, indicating the

underlying theoretical differences between synchronicity awareness and meaning detection, with only the latter contributing to individual differences in positive affect in our study. Previous studies have reported consistently an association between meaningful coincidences and positive affect (Coleman & Beitman 2009; Oikonomopoulos & Nega, 2021; Rominger et al., 2024). In their cross-lagged multilevel analysis that utilized daily diaries, Rominger and colleagues recently reported that positive affect experiences predicted meaningful coincidences the following day, supporting their hypothesis that synchronizers utilize a broader divergent thinking style which is in part enhanced by positive emotionality (Rominger et al., 2024). Considering the non-causal nature of our findings we cannot assume any direction in the relationship between synchronicity and positive affect. Relevant are also previous findings reporting associations between synchronicity experiences and increased vitality, a construct that captures feelings of aliveness, being energetic, and subjective positivity (Coleman & Beitman, 2009). Negative affect was not found to be significantly associated with either of the synchronicity subscales, indicating the absence of an influence of synchronicity experiences on negative emotions. Overall, the evidence appears to be mixed, as in our study we found positive affect as a significant outcome of meaning detection in synchronicity, consistent with previous research. However, some studies have reported associations with negative affect as well, possibly even stronger than with positive affect (Coleman & Beitman, 2009), as well as correlations with depression (Russo-Netzer & Icekson, 2009). Finally, contrary to our expectations based on previous evidence (Russo-Netzer & Icekson, 2023), life satisfaction was not found to be significantly predicted by synchronicity awareness or meaning detection in our sample.

Hypothesis 2: The Moderating Influence of Emotion Regulation

The second hypothesis of the present study explored the moderating role of emotion regulation (cognitive reappraisal and expressive suppression) on the association between synchronicity experiences and psychological outcomes.

With regards to cognitive reappraisal, a significant moderating effect was observed in the impact of meaning detection on life satisfaction. For individuals who reported above average levels of cognitive reappraisal, the impact of meaning detection on life satisfaction was significant and positive, with an average effect size ($b > 0.3$) compared to those with below average, or average levels of cognitive reappraisal. In other words, a higher usage of cognitive reappraisal as an emotion regulation mechanism was found to strengthen the impact of meaning detection on life satisfaction in our sample. According to the author's knowledge, this is the first study that investigated the contribution of emotion regulation strategies as moderators on the relationship between synchronicity experiences and psychological outcomes. Our work builds on the research conducted by Unger and colleagues at the University of Graz, in which they reported a) an association between meaningful coincidences and coping skills, and b) a moderating effect of coping skills in the relationship between meaningful coincidences and brain anatomy in a sample composed of healthy females (Unger et al., 2021). In their study, for females with average or below average coping skills, meaningful coincidences predicted decreases in grey matter volume in brain regions responsible for cognitive control, memory performance, stress management and causality attribution. According to the authors of the study, these findings could possibly indicate that experiencing coincidences can serve as a buffer for dealing with stressful events, compensating for the

lack of more proper coping mechanisms (Unger et al., 2021). Another relevant previous finding is the previously reported association between paranormal beliefs and experiences with emotion regulation. In Drinkwater and colleagues' study with UK-based participants, paranormal beliefs (e.g. telepathy) and paranormal experiences (e.g. visiting fortune-tellers) correlated both with cognitive reappraisal and expressive suppression, and the association was stronger with the latter (Drinkwater et al., 2022). Overall, our finding that for individuals with above average cognitive reappraisal meaning detection in synchronicity predicted increases in life satisfaction is in line with previous research reporting associations with synchronicity experiences and life satisfaction (Russo-Netzer & Icekson, 2023). All other combinations of predictors (synchronicity awareness & meaning detection) and outcomes (paranoid ideation, expressive suppression, negative affect, and life satisfaction) were not moderated by cognitive reappraisal in a significant way.

Regarding expressive suppression, moderation analyses revealed the absence of any significant influence on the association between synchronicity experiences and psychological outcomes. None of the possible associations between the two predictors (synchronicity awareness and meaning detection) and five outcomes (paranoid ideation, cognitive reappraisal, positive & negative affect, life satisfaction) was found to be significantly moderated by expressive suppression. We hypothesized that expressive suppression, as a maladaptive mechanism that is response-based at the later stages of experiencing emotions, would contribute negatively to the impact of synchronicity experiences. Yet, contrary to our expectations, having below or above average levels of expressive suppression on a trait level did not contribute to our analyses.

Hypothesis 3: The Moderating Influence of Spirituality

Our analyses revealed a significant positive moderating effect of spirituality on the impact of meaning detection on life satisfaction. Individuals with average and above average spirituality had an impact from meaning detection on their life satisfaction; those with an above average spirituality had a greater impact compared to those with an average spirituality. For those who reported below average levels of spirituality, synchronicity meaning detection did not impact their reported levels of life satisfaction. As expected, spirituality dictated the impact of meaning detection on life satisfaction. For those with an above average spirituality the effect size was large ($b > 0.5$), whereas for those with an average spirituality, the effect size was average ($b > 0.3$). For those with low spirituality there was no association between meaning detection and life satisfaction.

These findings confirm in part our hypothesis that spirituality would moderate the influence of synchronicity experiences on psychological well-being. This is the first study to report on the moderating role of spirituality between synchronicity experiences and psychological well-being. Previous studies have reported associations between meaningful coincidences and spirituality (Coleman & Beitman, 2009), as well as with life satisfaction (Russo-Netzer & Ickson, 2023). Moreover, in their mediation analyses, Russo-Netzer & Ickson suggested that optimism and the presence of meaning mediate the impact of synchronicity awareness and meaning detection on life satisfaction (Russo-Netzer & Ickson, 2023). Considering the broad spectrum of spiritual beliefs, experiences, and behaviors, our single-measure self-report measure might have captured a series of phenomena, including spiritual coping, search for meaning, community engagement, and more. Yet, in line with previous findings, it seems that synchronicity

experiences, as part of the broader umbrella of spirituality can be particularly beneficial for those who have a spiritual framework in which they can be successfully integrated. A non-significant effect near the threshold of significance was observed between meaning detection and expressive suppression, as higher levels of spirituality appeared to possibly contribute to a negative association between meaning detection and expressive suppression (individuals who find meaning in synchronicity may experience less expressive suppression if they have a higher spirituality). All other moderation analyses for two predictors (synchronicity awareness and meaning detection) and six outcomes (paranoid ideation, cognitive reappraisal, expressive suppression, positive and negative affect, and life satisfaction) did not reach significance.

Hypothesis 4: The Contribution of Age & Gender

With regards to age and gender, we were interested in investigating in an exploratory manner their influence on the association between synchronicity experiences and psychological outcomes. Considering the absence of relevant evidence in the literature, the contribution of both variables was approached non-directionally (Van Elk et al., 2016; Unger et al., 2021).

Age. Although age emerged as a reliable predictor of increases in synchronicity awareness and meaning detection, as well as decreases in paranoid ideation and expressive suppression, our analyses revealed no significant impact of age on the relationship between synchronicity predictors and psychological outcomes.

Gender. Overall, in our sample, females reported significantly higher levels of meaning detection in synchronicities, as well as increased levels of paranoid ideation,

compared to males. For all other variables, males and females did not differ in their average scores in a significant manner.

Further regression analyses revealed that for males only, synchronicity awareness predicted lower levels of cognitive reappraisal, whereas meaning detection predicted higher levels of cognitive reappraisal. Both findings had a comparable average effect size ($b > 0.30$). There is no previous evidence with regards to the association of synchronicity awareness, meaning detection, and emotion regulation strategies. Interestingly, in previous research both scales would most of the times perform comparably similar (i.e. both synchronicity awareness and meaning detection would yield similar results; Russo-Netzer & Icekson, 2023), however, in our study synchronicity awareness predicted decreases in cognitive reappraisal, and meaning detection predicted decreases, for males. Considering the non-causal nature of our findings, it is possible that males who do not utilize cognitive reappraisal are more prone to notice synchronicity experiences since a thorough cognitive evaluation would reduce the emotional intensity, perceived truthfulness, and seductive mystery of such experiences. Moreover, it can be argued that the association between meaning detection and cognitive reappraisal for males reflects a process that entails a cognitive appraisal of meaning in experiences. For females, the relevant associations were not significant.

Moreover, for males, meaning detection in synchronicity experiences predicted higher levels of positive affect, in line with the finding for the whole sample. For females, the relevant association was not significant. In other words, it seems that for males particularly, their positive affect levels can be predicted positively via their meaning-detection in synchronicity experiences.

Continuing, our separate moderation analyses on emotion regulation and spirituality for males and females included a series of additional findings. For males who tend to utilize cognitive reappraisal on an above average level, synchronicity awareness predicted increases in paranoid ideation; for females, there was no significant interaction effect. Previous studies have reported associations between meaningful coincidences and positive schizotypy, self-referential thinking, and conspiracy beliefs (Rominger et al., 2024; van Elk et al., 2016), regardless of gender, without shedding light on the underlying mechanism. Our findings indicate that males who might utilize an otherwise adaptive mechanism (cognitive reappraisal), combined with increased synchronicity awareness predicted increases in paranoid ideation. Previous evidence has indicated that cognitive reappraisal is not always beneficial. For instance, in situations of extremely intense emotions, the mechanism is not useful as compared to daily hassles, and low-intensity stress (Sheppes et al, 2011). Another relevant previous finding is that for situations in which there is perceived controllability, cognitive reappraisal can lead to depressive symptomatology as measured via the BDI, as compared to situations in which there is absence of perceived control (Troy et al., 2013). Similarly, it has been reported in an experimental manner that perceived loss of control increases belief in precognition, and belief in precognition increases perceived sense of control (Greenaway et al., 2013). Precognition refers to beliefs that the future is predictable, a construct similar in many ways to synchronicity beliefs and experiences. Overall, it is possible that since meaning detection provides an (artificial) sense of control, the tendency to reappraise the situation can become problematic rumination, distorted thinking, and ultimately paranoid ideation for males. Finally, providing preliminary theoretical foundations, Rominger and

colleagues have reported an interplay between a broader, divergent, overinclusive thinking style, associative creativity, schizotypy, and meaningful coincidences (Rominger et al., 2011;2019)

In addition, for males with below average self-reported spirituality, meaning detection predicted increases in expressive suppression; for females, there was no significant interaction effect. Interestingly, the effect size was large ($b > 0.7$), suggesting the presence of a strong interaction between meaning detection and spirituality as they both impact expressive suppression for males. Males have been consistently reported in the literature to suppress their emotions more than females (Gross & John, 2003). It is possible that for males who lack a spiritual compass, meaningful coincidences can exaggerate a tendency to suppress, isolate, and refrain from communication, particularly if they do not have someone to share their experiences and emotions safely.

Furthermore, for females who utilize cognitive reappraisal on a below average level, synchronicity meaning detection predicted decreases in both their expressive suppression and negative affect levels; for males, there was no significant relevant interaction effect. Finally, for females who utilize cognitive reappraisal on an above average level, synchronicity meaning detection predicted increases in their life satisfaction levels. Our study is the first in the relevant synchronicity literature to explore in-depth the interaction of gender and emotion regulation on the relationship between synchronicity and psychological well-being. One possible explanation of our findings is that for females who do not reappraise much, meaningful coincidences work as an alternative coping mechanism, allowing them to project their negative emotions, reducing the need to suppress and feel negatively. Conversely, for those who utilize cognitive

reappraisal a lot, meaningful coincidences further their positive affect. These findings can be better understood if we consider the synchronicity examples of unexpected job opportunities, new discoveries, or successful resolutions (e.g. timely money).

Limitations & Suggestions for Future Research

Despite its strengths, the present study includes certain limitations. First, data collected were based on self-report measures which can be influenced by social desirability. Although the questionnaires utilized have sound psychometric properties, future studies would benefit via incorporating, along with self-report measures, neurobiological and behavioral assessment tools. Unger and colleagues' utilization of grey matter volume measures in brain functioning (Unger et al., 2021), Rominger and associates' recent usage of a daily diary method (Rominger et al., 2024), as well as Russo-Netzer and Iceksons's bottom-up approach in which qualitative phenomenological data guided their further quantitative research steps (Russo-Netzer & Icekson, 2023), are all significant contributions to the emerging body of literature on synchronicity and meaningful coincidences via different methodological approaches.

Moreover, the cross-sectional design of the present survey study does not allow for the assumption of causality in the reported links between constructs. Rominger and colleagues recently admitted that “we do not know how to experimentally induce the experience of meaningful coincidences or synchronicity”, suggesting that observational studies will guide the study of the phenomenon (p. 2, Rominger et al., 2024). Future studies should attempt to utilize longitudinal designs to better understand synchronicity experiences and their associated outcomes on an intraindividual and inter-individual level.

Despite the absence of causal links which only experimental methods can yield, our findings provide insight on the phenomenon in novel ways, indicating how coincidences are experienced on a subjective level. Finally, although we attempted to capture both risk-indicating as well as positive aspects of synchronicity experiences, our theoretical framework and assumed hypotheses might resemble a small bias towards the beneficial aspect of the construct. Future studies should attempt to be cautious of research bias in the literature, balancing both positive and negative frameworks of understanding, and related outcomes.

Importance & Practical Implications of Findings for psychotherapy

The first aim of the present study was to evaluate the extent to which synchronicity experiences constitute a risk factor for psychopathology, or a resilience mechanism for individuals who have a propensity to experience meaningful coincidences. A secondary aim of this study was to assess the role of emotion regulation strategies (cognitive reappraisal & expressive suppression) and spirituality in the association, hypothesizing that cognitive reappraisal and spirituality would act as beneficial moderators, whereas expressive suppression (or low reappraisal and low spirituality) would be possibly factors that would hinder the impact of synchronicity on psychological well-being.

With regards to the risk versus resilience debate, identifying a definitive answer seems impossible with our current understanding, and considering the accumulating mixed evidence that has pointed towards both directions (Rominger et al., 2019; Colema & Beitman, 2009; Russo-Netzer & Icekson, 2023). Our findings for the whole sample identified positive affect as a direct outcome of meaning detection in synchronicity, as

well as life satisfaction as a moderated outcome for those who utilize cognitive reappraisal on an above average level, and those with an average or above average spirituality. No adverse outcomes were directly or indirectly related with synchronicity experiences for the whole sample.

For Males

Our separate gender analyses indicated that for males, synchronicity awareness predicted decreases in cognitive reappraisal, whereas meaning detection predicted increases in cognitive reappraisal (as well as in positive affect). Admittedly, cognitive reappraisal is an adaptive coping mechanism compared to expressive suppression, yet its increased or decreased usage cannot be regarded as a reliable indicator of well-being or psychopathology per se, considering its complex context-dependent nature as a construct.

Further moderation analyses indicated that for males who utilize cognitive reappraisal on an above average level, meaning detection predicted an increased paranoid ideation. Moreover, for males with a below average spirituality, meaning detection predicted increases in expressive suppression. Considering that expressive suppression correlated with paranoid ideation in our sample, as well as its documented association with a series of interpersonal, intrapersonal, and even physiological adverse outcomes, we have evidence that male individuals who might attempt to regulate their positive or negative emotions when they detect meaning in coincidences, via a cognitive reappraisal of the event, they might reach a distorted sense of meaning, rumination, and ultimately paranoid tendencies. Moreover, for males who score low on spirituality, seem to utilize expressive suppression with regards to their emotions, failing to regulate them at earlier stages of emotion generation/alteration, resulting in response-based suppression. The

theoretical and experiential overlap of both constructs (expressive suppression and paranoid ideation), as well as the increased tendency of males overall to utilize expressive suppression more than females on average, provide a preliminary framework for clinicians who want better to understand under what circumstances synchronicity experiences can be problematic for their male clients.

Conversely, our finding that for male individuals with an above average spirituality, meaning detection predicted decreases in expressive suppression, confirms our hypothesis that a spiritual compass is often necessary and beneficial for the integration of synchronicity experiences in one's own narrative and life story. Spirituality seems to strengthen the capacity of synchronicity experiences to require a reduced expressive suppression strategy for males. Niemiec has argued that spirituality interacts with character strengths towards wholeness (Niemiec et al., 2020). For instance, he suggests that curiosity, gratitude, kindness, and prudence (character strengths), interact with spiritual beliefs, practices, experiences and writings working in a synergistic manner in facilitating growth, inter-relatedness, and ultimately a life-affirming integration of brokenness (Niemiec et al., 2020). In this view, the pursuit of meaning is across a threefold pathway: intrapersonal (deep-within), interpersonal (horizontal, sideways and inter-connected), and sacred/spiritual (vertical, up & beyond). Synchronicity experiences, via thinning the boundaries across all three components (personal, relational, sacred), provide opportunities for growth for some and can be challenging for others. Considering the non-causal nature of our findings, we cannot assume a directional pathway between the relevant constructs, however, these preliminary findings provide insights on the

nature of synchronicity phenomena, as from a spiritual perspective sacred moments provide opportunities for a grounding path and the cultivation of deep meaning.

For Females

Our direct and moderated analyses for females revealed no associations of synchronicity experiences with adverse measures, or reductions in positive measures. By contrast, we identified significant moderated outcomes of meaning detection in synchronicity experiences. Meaning detection predicted increases in life satisfaction (for females who utilize cognitive reappraisal on an above average level), as well as decreases in expressive suppression, and decreases in negative affect (for females who utilize cognitive reappraisal on a below average level). In other words, females who utilize cognitive reappraisal above average seem to experience increased life satisfaction as an outcome of meaning detection in synchronicity. Yet, females who utilize cognitive reappraisal below average, also benefit from the impact of meaning detection in synchronicity experiences via a reduced expressive suppression, as well as reduced negative emotions. Do our findings suggest that for females, synchronicity experiences are solely beneficial without any risk? Considering that females score on average higher than males on paranoid ideation, as well as in other relevant constructs, although we failed to identify any adverse indicators for female participants of this study, our preliminary evidence is far from reaching definitive conclusions with regards to the risk-indicating or resilience building role of synchronicity for female clients in psychotherapy. Based on our results, some females will experience increased life satisfaction if they tend to utilize cognitive reappraisal on an above average level, after having reported meaning detection in synchronicity experiences. Other females might report a reduced tendency to

suppress their emotions, or reduced negative emotions overall, as a function of their low usage of cognitive reappraisal.

Synthesis of Implications

To better understand the clinical value of our operationally defined constructs via the relevant scales and subscales, we will summarize the contribution of each in this study. Synchronicity awareness refers to the frequency of attending to meaningful coincidences, whereas meaning detection measures an individual's tendency to identify meaning in synchronicity.

Joseph Cambell has suggested that “the psychotic drowns in the same waters in which the mystic swims with delight”. Paranoid ideation is a thought process that can lead to delusional thinking and psychopathology, and it seems to overlap conceptually with meaningful coincidences and apophenia. Our findings indicated that for males who utilize cognitive reappraisal frequently, paranoid ideation might be related to synchronicity meaning-detection. Also, although outside the scope of this study, paranoid ideation correlated with expressive suppression overall.

We approached emotion regulation by utilizing the twofold paradigm of cognitive reappraisal and expressive suppression. Cognitive reappraisal is an antecedent-focused adaptive coping mechanism, similar to what cognitive therapists would describe as cognitive restructuring or correction of cognitive distortions and false beliefs. It is neither positive nor negative per se, although it is critically a healthier and more adaptive strategy compared to expressive suppression. We found that it can possibly moderate the impact of synchronicity experiences in both directions. Expressive suppression is a response-based attempt to regulate emotions and has been linked with adverse outcomes,

as it essentially does not remove or alter the emotion but only its expression. Leslie Greenberg, proponent of Emotion-Focused Therapy (EFT) has argued that a beneficial way of thinking about difficult emotions in psychotherapy is “changing emotion with emotion”, in other words highlighting the value of experiencing and accepting challenging emotions and experiences, if they are to be integrated meaningfully in one’s self-development and self-actualization.

As emotions can be conceived as being built, self-monitored, evaluated, expressed, and fluctuating dynamically over time, their complex interplay with coincidences remains still unsolved for clinicians and researchers. Positive and negative affect cannot be regarded as reliable indices of well-being, considering their state variability, although trait neuroticism correlates highly with negative affect, and optimism and meaning correlate positively with positive affect. Our study found no link between synchronicity experiences and increased negative affect, although it found links for increases in positive affect (for males) and decreases in negative affect (for females).

Moreover, life satisfaction is a broader measure of psychological well-being, influenced by a multitude of variables, yet serving as a reliable indicator of overall satisfaction from life. Finally, spirituality was utilized only as a moderator in the present study, assessing its interplay with the relevant construct of meaningful coincidences, and maintaining a neutral stance with regards to its role as a predictor (of well-being or pathology) or outcome.

Whether they provide a sense of control, emotional coping, optimism, positive affect, spiritual expression, or a deeply personal sense of meaning, synchronicity experiences can be beneficial for some individuals, allowing them to project in unrelated

phenomena their emotional, cognitive, and interpersonal residue in a process similar to other forms of divination such as astrology or tarot reading. Synchronicity experiences have been reported as cooccurring in other studies with depression, negative affect, reduced working memory performance, and schizotypal traits, as well as with paranoid ideation and expressive suppression in our study (for male who over-appraise cognitively or are low in spirituality), suggesting that in some situations further clinical attention is warranted in order to prevent exacerbation of ideational pathology, and the relevant adverse outcomes of emotional suppression.

Having discussed so far, the side of the client, a consideration of the counselor's standpoint is also necessary for a comprehensive evaluation of the present study's findings for clinical practice. As discussed in the introduction of this paper, diverging worldviews have shaped diverging paradigms in our field; believes in "hard science" would reject any possibility that synchronistic phenomena can be true, ridiculing clients who report meaning in coincidences; conversely, ultra-spiritual charlatans could exploit interindividual vulnerability in paranormal beliefs via unethical, unscientific, and incompetent practice. As our field remains as of now, clients can either stumble upon spiritual pro-synchronicity counselors, or hard-science fanatics who would undervalue the phenomenological value of personal meaning reported by individuals. Considering the very limited infantile evidence on the field, further research is needed to better understand the phenomenon and its impact on mental health, as neither of the pro- or against- synchronicity standpoints appear to be justified from relevant evidence, apart from personal beliefs and worldviews. Almost a century after C. Jung's original pioneering work, the concept of synchronicity seems to warrant an initial cautious

neutrality towards the convergence and reconciliation of conflicting paradigms, or at least a thoughtful integration and co-existence of the described opposing frameworks.

Finally, therapists might often experience a synchronicity between their own challenges and that of their clients. For Jungian analysts this would be an expected result of meaningful connections through a-casual connection principles, whereas for skeptics they would constitute again a logical ratio of probabilities between limited human problems and human relationships. Overinterpreting parallels between therapist and client can hinder neutrality and disrupt the therapeutic boundaries. Yet, in accordance with one's spiritual values, in a congruent manner, a counselor should strive to allow clients to express and experience their spirituality in a validating and affirming manner.

Conclusion

In conclusion, then, the present study investigated the impact of synchronicity experiences on psychological outcomes, as well as possible moderators in the association. Considering that meaningful coincidences are a widespread phenomenon, its relevance to the general population as well as to mental health professionals warrants further research attention on the construct. We were interested in investigating whether they can be beneficial, problematic, or both, as well as exploring what might contribute to the strength or the direction of the impact of synchronicity on psychological well-being.

Our findings indicated that meaning detection in synchronicity experiences predicted increases in positive affect for our entire sample, as well as increased life satisfaction for those with an above average level of cognitive reappraisal, and for those with average and above average levels of self-reported spirituality. Moreover, our analyses revealed that for males, meaning detection predicted increases in cognitive

reappraisal and positive affect. Also, for males with an above average spirituality meaning detection predicted decreases in expressive suppression. However, for males, synchronicity awareness predicted decreases in cognitive reappraisal; also, for males who utilize cognitive reappraisal on an above average level, meaning detection can predict paranoid ideation; and for males with low spirituality, it can predict increases in expressive emotional suppression. In other words, our results provided evidence towards both directions, i.e. resilience-building, as well as risk-indicating for males, with spirituality being a reliable moderator of the association, whereas cognitive reappraisal yielded conflicting outcomes. For females, no adverse outcomes were observed in either of the direct or indirect associations. On the contrary, meaning detection in synchronicity predicted increased life satisfaction (for females who utilize cognitive reappraisal on an above average level), and reduced expressive emotional suppression and reduced negative affect (for females who utilize cognitive reappraisal on a below average level) in our sample.

Taken together, our findings provide insight on the underlying mechanisms of synchronicity experiences (awareness and meaning detection) and their association with paranoid ideation, emotion regulation, affect, spirituality, and life satisfaction, via replicating and extending previous findings (Coleman & Beitman, 2009; Rominger et al., 2024; Russo-Netzer & Icekson, 2023; Unger et al., 2021). Our separate findings for males and females are a novel contribution in the field, highlighting the need for further research which will elucidate the interplay of gender with the underlying constructs associated with meaningful coincidences. Considering the stigma often associated with phenomena such as synchronicity since the debate between Freud & Jung in the early 20th

century, and their long-held rejection by the dominant scientific consensus in our field, our study confirmed that the increasing research attention on meaningful coincidences in the recent years is justified. Individuals *experience* synchronicity experiences, often try to make meaning out of them, with the underlying process impacting their mental health. Utilizing a nuanced approach that will balance conflicting worldviews and assumptions (e.g. *the psychosphere as spirit, collective unconscious, anima mundi*, for pro-synchronicity professionals versus *rationalism, materialism, hard-science* for those who wholeheartedly dismiss it), coincidence studies will continue to provide us with significant theoretical and clinical implications relevant to the search and presence of meaning, spirituality, and their contribution to psychological well-being.

References

- Attig, S., Schwartz, G. E., Figueredo, A. J., Jacobs, W. J., & Bryson, K. C. (2011). Coincidences, intuition, and spirituality. *Psychiatric Annals*.
<https://doi.org/10.3928/00485713-20111104-08>
- Beitman, B. (2016). *Connecting with Coincidence: The New Science for Using Synchronicity and Serendipity in Your Life*. Health Communications, Inc.
- Beitman, B. D. (2009). Brains Seek Patterns in Coincidences. *Psychiatric Annals*, 39(5), 255-264. <https://doi.org/10.3928/00485713-20090421-02>
- Beitman, B. D., & Shaw, A. (2009). Synchroners, high emotion, and coincidence interpretation. *Psychiatric Annals*, 39(5), 280–286.
<https://doi.org/10.3928/00485713-20090423-02>
- Bressan, P. (2002). The connection between random sequences, everyday coincidences, and belief in the paranormal. *Applied Cognitive Psychology*, 16(1), 17–34.
<https://doi.org/10.1002/acp.754>
- Coleman, S. L., & Beitman, B. D. (2009). Characterizing high-frequency coincidence detectors. *Psychiatric Annals*, 39(5), 271–279. <https://doi.org/10.3928/00485713-20090423-01>
- Coleman, S. L., Beitman, B. D., & Celebi, E. (2009). Weird Coincidences Commonly Occur. *Psychiatric Annals*, 39(5), 265–270. <https://doi.org/10.3928/00485713-20090421-03>
- Diener, E. (2012). New findings and future directions for subjective well-being research. *American Psychologist*, 67(8), 590–597. <https://doi.org/10.1037/a0029541>

- Diener, E., Emmons, R., Sem, R., and Griffin, S. (1985). The satisfaction with life scale. *J. Pers. Assess.* 49, 71–75. doi: 10.1207/s15327752jpa4901_13
- Elsner, T. (2023). The Rainmaker. *Psychological Perspectives*, 66(1), 1–5. <https://doi.org/10.1080/00332925.2023.2210993>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Ferreira Vieira, T. L. (2023). The Experience of the unconscious from Freud to Jung: On Telepathy and synchronicity. *Journal of Psychiatry Research Reviews & Reports*, 1–10. [https://doi.org/10.47363/JPSRR/2023\(5\)148](https://doi.org/10.47363/JPSRR/2023(5)148)
- Fetzer Institute/National Institute on Aging Working Group. (1999). *Multidimensional measurement of religiousness/spirituality for use in health research*. John E. Fetzer Institute.
- Frankl, V.E. (1963). *Man's search for meaning: An introduction to logotherapy*. New York: Washington Square Press
- Frankl, V. E. (1969). *The will to meaning: Foundations and applications of logotherapy*. New York: World Publishing.
- Freeman, D., Stahl, D., McManus, S., Meltzer, H., Brugha, T., Wiles, N., & Bebbington, P. (2012). Insomnia, worry, anxiety and depression as predictors of the occurrence and persistence of paranoid thinking. *Social Psychiatry and Psychiatric Epidemiology*, 47(8), 1195–1203. <https://doi.org/10.1007/s00127-011-0433-1>

- Grafman, J., Cristofori, I., Zhong, W., & Bulbulia, J. (2020). The neural basis of religious cognition. *Current Directions in Psychological Science*, 29(2), 126–133. <https://doi.org/10.1177/0963721419898183>
- Greenaway, K. H., Louis, W. R., & Hornsey, M. J. (2013). Loss of control increases belief in precognition and belief in precognition increases control. *PloS one*, 8(8), e71327. <https://doi.org/10.1371/journal.pone.0071327>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Hinz, A., Conrad, I., Schroeter, M. L., Glaesmer, H., Brähler, E., Zenger, M., Kocalevent, R.-D., & Herzberg, P. Y. (2018). Psychometric properties of the Satisfaction with Life Scale (SWLS), derived from a large German community sample. *Quality of Life Research*, 27(6), 1661–1670. <https://doi.org/10.1007/s11136-018-1844-1>
- James, W. (1893). *The principles of psychology* (Vol. 1). New York, NY: Holt
- Johansen, M. K., & Osman, M. (2015). Coincidences: A fundamental consequence of rational cognition. *New Ideas in Psychology*, 39, 34–44. <https://doi.org/10.1016/j.newideapsych.2015.07.001>
- Jung, C. G. (1989). *Memories, dreams, reflections*. Vintage. (Original work published 1961)
- Kneeland, E. T., Nolen-Hoeksema, S., Dovidio, J. F., & Gruber, J. (2016). Emotion malleability beliefs influence the spontaneous regulation of social anxiety.

- Cognitive Therapy and Research*, 40(4), 496–509.
<https://doi.org/10.1007/s10608-016-9765-1>
- Lagutina, L. (2021). Meeting the orphan: Early relational trauma, synchronicity and the psychoid. *Journal of Analytical Psychology*, 66(1), 5–27.
https://doi.org/10.1111/1468_5922.12646
- López-Ortega, M., Torres-Castro, S., & Rosas-Carrasco, O. (2016). Psychometric properties of the Satisfaction with Life Scale (SWLS): secondary analysis of the Mexican Health and Aging Study. *Health and quality of life outcomes*, 14(1), 170.
<https://doi.org/10.1186/s12955-016-0573-9>
- Marlo, H. (2022). Experiencing the spiritual psyche: Reflections on synchronicity informed psychotherapy. *Jung Journal*, 16(4), 44–69.
<https://doi.org/10.1080/19342039.2022.2125770>
- Miller, L. (2011). An experiential approach for exploring spirituality. In J. D. Aten, M. R. McMinn, & E. L. Worthington, Jr., *Spiritually oriented interventions for counseling and psychotherapy* (pp. 325–343). American Psychological Association. <https://doi.org/10.1037/12313-013>
- Moreno-Lopez, L., Ioannidis, K., Askelund, A. D., Smith, A., Schüler, K., & Van Harmelen, A. L. (2019). *The resilient emotional brain: A review of mPFC and limbic structure and function in resilient adults with a history of childhood maltreatment* [Preprint]. Open Science Framework.
<https://doi.org/10.31219/osf.io/5tyc9>

- Na, E. J., Choi, K. W., Hong, J. P., Cho, M. J., Fava, M., Mischoulon, D., & Jeon, H. J. (2019). Paranoid Ideation Without Psychosis Is Associated With Depression, Anxiety, and Suicide Attempts in General Population. *Journal of Nervous & Mental Disease*, 207(10), 826-831.
<https://doi.org/10.1097/NMD.0000000000001050>
- Niemiec, R. M., Russo-Netzer, P., & Pargament, K. I. (2020). The Decoding of the Human Spirit: A Synergy of Spirituality and Character Strengths Toward Wholeness. *Frontiers in Psychology*, 11, 2040.
<https://doi.org/10.3389/fpsyg.2020.02040>
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressed mood. *Journal of Abnormal Psychology*, 102(1), 20–28. <https://doi.org/10.1037/0021-843X.102.1.20>
- Oikonomopoulos, A. & Nega, C. (2021, July 18-23). *Predisposing factors associated with the experience of meaningful coincidences* [Poster presentation]. 32nd International Congress of Psychology (ICP 2020+), Prague, Czech Republic.
<http://dx.doi.org/10.13140/RG.2.2.15931.08487>
- Piper, W. E., Ogrodniczuk, J. S., McCallum, M., Joyce, A. S., & Rosie, J. S. (2003). Expression of affect as a mediator of the relationship between quality of object relations and group therapy outcome for patients with complicated grief. *Journal of Consulting and Clinical Psychology*, 71(4), 664–671.
<https://doi.org/10.1037/0022-006X.71.4.664>

- Rabeyron, T. (2022). When the Truth Is Out There: Counseling People Who Report Anomalous Experiences. *Frontiers in Psychology, 12*, 693707. <https://doi.org/10.3389/fpsyg.2021.693707>
- Rabeyron, T., & Watt, C. (2010). Paranormal experiences, mental health and mental boundaries, and psi. *Personality and Individual Differences, 48*(4), 487–492. <https://doi.org/10.1016/j.paid.2009.11.029>
- Richards, J. M., & Gross, J. J. (2000). Emotion regulation and memory: The cognitive costs of keeping one's cool. *Journal of Personality and Social Psychology, 79*(3), 410–424. <https://doi.org/10.1037/0022-3514.79.3.410>
- Rominger, C., Fink, A., Perchtold-Stefan, C. M., & Schwerdtfeger, A. R. (2024). Today's positive affect predicts tomorrow's experience of meaningful coincidences: A cross-lagged multilevel analysis. *Cognition and Emotion, 1–8*. <https://doi.org/10.1080/02699931.2024.2349280>
- Rominger, C., Fink, A., Perchtold-Stefan, C. M., Schuler, G., Weiss, E. M., & Papousek, I. (2022). Creative, yet not unique? Paranormal belief, but not self-rated creative ideation behavior is associated with a higher propensity to perceive unique meanings in randomness. *Heliyon, 8*(4), e09269. <https://doi.org/10.1016/j.heliyon.2022.e09269>
- Rominger, C., Fink, A., Weiss, E. M., Schuler, G., Perchtold, C. M., & Papousek, I. (2019). The propensity to perceive meaningful coincidences is associated with increased posterior alpha power during retention of information in a modified Sternberg paradigm. *Consciousness and Cognition, 76*, 102832. <https://doi.org/10.1016/j.concog.2019.102832>

- Rominger, C., Weiss, E. M., Fink, A., Schuler, G., & Papousek, I. (2011). Allusive thinking (cognitive looseness) and the propensity to perceive “meaningful” coincidences. *Personality and Individual Differences, 51*(8), 1002–1006.
<https://doi.org/10.1016/j.paid.2011.08.012>
- Roxburgh, E. C., Ridgway, S., & Roe, C. A. (2016). Synchronicity in the therapeutic setting: A survey of practitioners. *Counselling and Psychotherapy Research, 16*(1), 44–53. <https://doi.org/10.1002/capr.12057>
- Russo-Netzer, P., & Icekson, T. (2022). Engaging with life: Synchronicity experiences as a pathway to meaning and personal growth. *Current Psychology, 41*(2), 597–610.
<https://doi.org/10.1007/s12144-019-00595-1>
- Russo-Netzer, P., & Icekson, T. (2023). An underexplored pathway to life satisfaction: The development and validation of the synchronicity awareness and meaning detecting scale. *Frontiers in Psychology, 13*, 1053296.
<https://doi.org/10.3389/fpsyg.2022.1053296>
- Sacco, R. G. (2020). Synchronicity research: A Review, taxonomy, and agenda. *International Journal of Jungian Studies, 13*(1), 41–68.
<https://doi.org/10.1163/19409060-20201002>
- Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-Regulation Choice. *Psychological Science, 22*(11), 1391–1396.
<https://doi.org/10.1177/0956797611418350>
- Schjoedt, U., Sørensen, J., Nielbo, K. L., Xygalatas, D., Mitkidis, P., & Bulbulia, J. (2013). Cognitive resource depletion in religious interactions. *Religion, Brain & Behavior, 3*(1), 39–55. <https://doi.org/10.1080/2153599X.2012.736714>

- Steger, M. F., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, Cognitive style, and the dynamic between seeking and experiencing Meaning. *Journal of Personality*, 76(2), 199–228.
<https://doi.org/10.1111/j.1467-6494.2007.00484.x>
- Steger, M. F., Oishi, S., & Kesebir, S. (2011). Is a life without meaning satisfying? The moderating role of the search for meaning in satisfaction with life judgments. *The Journal of Positive Psychology*, 6(3), 173–180.
<https://doi.org/10.1080/17439760.2011.569171>
- Stephoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, 385(9968), 640–648. [https://doi.org/10.1016/S0140-6736\(13\)61489-0](https://doi.org/10.1016/S0140-6736(13)61489-0)
- Taves, A., & Barlev, M. (2023). A feature-based approach to the comparative study of "nonordinary" experiences. *The American Psychologist*, 78(1), 50–61.
<https://doi.org/10.1037/amp0000990>
- Teper, R., Segal, Z. V., & Inzlicht, M. (2013). Inside the mindful mind: How mindfulness enhances emotion regulation through improvements in executive control. *Current Directions in Psychological Science*, 22(6), 449–454.
<https://doi.org/10.1177/0963721413495869>
- Tian, F., Li, H., Tian, S., Yang, J., Shao, J., & Tian, C. (2020). Psychological symptoms of ordinary Chinese citizens based on SCL-90 during the level I emergency response to COVID-19. *Psychiatry Research*, 288, 112992.
<https://doi.org/10.1016/j.psychres.2020.112992>

Troy, A. S., Shallcross, A. J., & Mauss, I. B. (2013). A person-by-situation approach to emotion regulation: cognitive reappraisal can either help or hurt, depending on the context. *Psychological science*, *24*(12), 2505–2514.

<https://doi.org/10.1177/0956797613496434>

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty. *Science*, *185*(4157), 1124–1131. <https://doi.org/10.1126/science.185.4157.1124>

Unger, I., Wabnegger, A., & Schienle, A. (2021). The association between the propensity to experience meaningful coincidence and brain anatomy in healthy females: The moderating role of coping skills. *Consciousness and Cognition*, *91*, 103132.

<https://doi.org/10.1016/j.concog.2021.103132>

Van Elk, M., Friston, K., & Bekkering, H. (2016). The Experience of coincidence: An Integrated psychological and neurocognitive perspective. In K. Landsman & E. Van Wolde (Eds.), *The Challenge of Chance* (pp. 171–185). Springer International

Publishing. https://doi.org/10.1007/978-3-319-26300-7_9

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070. Doi:10.1037/0022-3514.54.6.1063

Whitson, J. A., & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception. *Science*, *322*(5898), 115–117.

<https://doi.org/10.1126/science.1159845>

Table 1*Descriptive statistics for continuous variables of the study, N = 112*

Variables	<i>Mean</i>	<i>SD</i>	<i>Range</i>	<i>Cromb. α</i>
Synchronicity Awareness (SA)	2.81	0.828	0.56 - 4.67	0.84
Meaning Detection (MD)	4.98	0.991	2.77 - 7	0.91
Paranoid Ideation (PAR-6)	1.47	0.790	0 - 3.5	0.74
Cognitive Reappraisal (ERQ)	4.52	1.133	1.17 - 7	0.86
Expressive Suppression (ERQ)	3.43	1.278	1 - 7	0.77
Positive Affect (PA)	3.22	0.750	1.4 - 5	0.87
Negative Affect (NA)	2.14	0.930	1 - 4.8	0.93
Life Satisfaction (SWLS)	4.43	1.245	1.4 - 7	0.87
Religiosity	1.80	0.898	1 - 4	-
Spirituality	2.58	1.000	1 - 4	-
Age	33.25	11.993	18 - 71	-

Table 2*Bivariate intercorrelations between continuous variables of the study, N=112.*

Variables	MD	PAR	Reap	Supr.	PA	NA	LS	Relg	Spir	Age
SA	0.53**	0.07	-0.11	-0.01	0.13	0.02	0.12	0.27**	0.33**	0.25**
MD	–	0.15	0.09	-0.11	0.29**	-0.1	0.19*	0.18	0.55*	0.27**
PAR		–	0.03	0.23	0.07	0.45**	-0.22*	0.27**	0.09	-0.28**
Reap (ERQ)			–	-0.11	0.35**	-0.11	0.29**	0.02	0.02	-0.06
Supr. (ERQ)				–	-0.06	0.13	-0.01	0.24*	-0.12	-0.28**
PA					–	-0.3	0.56**	0.22*	0.19*	0.10
NA						–	-0.21*	0.08	0.01	-0.16
LS							–	0.16	-0.02	0.06
Reg.								–	0.21*	-0.17
Spir.									–	0.35**
Age										–

Note: SA: Synchronicity Awareness; MD: Meaning Detection; PAR: Paranoid Ideation; Reap: Cognitive Reappraisal; Supr.: Expressive Suppression; PA: Positive Affect; NA: Negative Affect; LS: Life Satisfaction; Relg.: Religiosity; Spir.: Spirituality; * $p < 0.05$ ** $p < 0.01$.

Table 3

Conditional Effects of SA & MD on Paranoid Ideation, Expressive Suppression, Positive & Negative Affect, and Life Satisfaction Moderated by Cognitive Reappraisal

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Par.Ideation						
Interaction: SA X CogReap	0.078	0.080	-0.079	0.234	0.973	0.330
Interaction: MD X CogReap	-0.016	0.054	-0.122	0.091	-0.288	0.773
Outcome: Expr. Supr.						
Interaction: SA X CogReap	-0.087	0.128	-0.337	0.163	-0.682	0.496
Interaction MD X CogReap	0.111	0.088	-0.060	0.283	1.272	0.204
Outcome: Pos. Af.						
Interaction MD X CogReap	-0.027	0.070	-0.165	0.111	-0.386	0.700
Interaction MD X CogReap	-0.001	0.047	-0.094	0.091	-0.030	0.976
Outcome: Neg. Af.						
Interaction: SA X CogReap	0.010	0.094	-0.174	0.194	0.108	0.914
Interaction: MD X CogReap	0.024	0.064	-0.101	0.150	0.378	0.706
Outcome: Life Sat.						
Interaction: SA X CogReap	-0.046	0.119	-0.280	0.188	-0.385	0.700
Interaction MD X CogReap	0.161	0.081	0.003	0.319	1.999	0.046*
Simple Slope Analysis						
M-1SD	0.007	0.152	-0.291	0.305	0.045	0.964
M	0.188	0.112	-0.031	0.408	1.681	0.093
M+1SD	0.370	0.137	0.101	0.639	2.699	0.007*

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; CogReap: cognitive reappraisal; significant at the $p < 0.05$ level.

Table 4

Conditional Effects of SA & MD on Paranoid Ideation, Cognitive Reappraisal, Positive & Negative Affect, and Life Satisfaction, moderated by Expressive Suppression

	95% CI				Z	p
	β	SE	Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X ExSupr	0.035	0.066	-0.094	0.164	0.532	0.595
Interaction: MD X ExSupr	-0.043	0.053	-0.146	0.061	-0.809	0.419
Outcome: Cogn. Reappraisal						
Interaction SA X ExSupr	-0.138	0.096	-0.325	0.050	-1.441	0.150
Interaction MD X ExSupr	0.056	0.078	-0.097	0.209	0.715	0.474
Outcome: Positive Affect						
Interaction: SA X ExSupr	0.006	0.064	-0.120	0.131	0.090	0.928
Interaction: MD X ExSupr	0.059	0.050	-0.038	0.157	1.188	0.235
Outcome: Negative Affect						
Interaction: SA X ExSupr	-0.013	0.167	-0.340	0.314	-0.078	0.938
Interaction: MD X ExSupr	-0.031	0.064	-0.156	0.095	-0.447	0.633
Outcome: Life Satisfaction						
Interaction: SA X ExSupr	0.106	0.106	-0.102	0.314	0.996	0.319
Interaction MD X ExSupr	0.113	0.085	-0.053	0.279	1.338	0.181

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ExSupr: expressive suppression.

Table 5

Conditional Effects of SA & MD on Paranoid Ideation, ERQ, Positive & Negative Affect, and Life Satisfaction, moderated by Spirituality

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X Spirit	-0.036	0.094	-0.221	0.149	-0.379	0.705
Interaction: MD X Spirit	-0.122	0.073	-0.265	0.022	-1.660	0.097
Outcome: Cogn. Reappraisal						
Interaction SA X Spirit	0.218	0.133	-0.043	0.480	1.638	0.102
Interaction MD X Spirit	0.162	0.106	-0.045	0.370	1.533	0.125
Outcome: Expr. Suppression						
Interaction SA X Spirit	-0.200	0.150	-0.495	0.095	-1.328	0.184
Interaction MD X Spirit	-0.231	0.118	-0.462	0.001	-1.949	0.051
Outcome: Positive Affect						
Interaction: SA X Spirit	0.051	0.088	-0.121	0.224	0.582	0.560
Interaction: MD X Spirit	0.089	0.068	-0.043	0.222	1.321	0.186
Outcome: Negative Affect						
Interaction: SA X Spirit	0.150	0.111	-0.067	0.367	1.353	0.176
Interaction: MD X Spirit	0.006	0.088	-0.166	0.178	0.068	0.946
Outcome: Life Satisfaction						
Interaction: SA X Spirit	0.091	0.148	-0.199	0.381	0.616	0.538
Interaction MD X Spirit	0.254	0.112	0.034	0.474	2.261	0.024*
Simple Slope Analysis						
M-1SD	0.070	0.169	-0.262	0.402	0.414	0.679
M	0.323	0.116	0.096	0.550	2.790	0.005*
M+1SD	0.576	0.154	0.274	0.878	3.737	<.001**

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ERQ: Emotion Regulation Questionnaire; spirit: spirituality; * significant at $p < 0.05$ level; ** significant at $p < .001$ level.

Table 6

Conditional Effects of SA & MD on Paranoid Ideation, Expressive Suppression, Positive & Negative Affect, and Life Satisfaction Moderated by Cognitive Reappraisal for Males

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X CogReap	0.222	0.087	0.050	0.393	2.533	0.011*
Simple Slope Analysis						
M-1SD	-0.096	0.187	-0.461	0.271	-0.512	0.608
M	0.161	0.137	-0.108	0.429	1.174	0.241
M+1SD	0.417	0.156	0.112	0.723	2.677	0.007*
Interaction: MD X CogReap	0.006	0.073	-0.137	0.149	0.085	0.932
Outcome: Expr. Supr.						
Interaction: SA X CogReap	-0.123	0.16	-0.45	0.20	-0.739	0.460
Interaction: MD X CogReap	0.047	0.13	-0.21	0.30	0.359	0.719
Outcome: Positive Affect						
Interaction: SA X CogReap	-0.163	0.08	-0.33	0.01	-1.859	0.063
Interaction MD X CogReap	-0.076	0.06	-0.21	0.05	-1.113	0.266
Outcome: Negative Affect						
Interaction: SA X CogReap	-0.012	0.12	-0.25	0.22	-0.097	0.923
Interaction: MD X CogReap	-0.033	0.09	-0.22	0.15	-0.349	0.727
Outcome: Life Satisfaction						
Interaction: SA X CogReap	-0.229	0.14	-0.51	0.05	-1.565	0.118
Interaction MD X CogReap	-0.050	0.11	-0.27	0.17	-0.444	0.657

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; CogReap: cognitive reappraisal; significant at the $p < 0.05$ level.

Table 7

Conditional Effects of SA & MD on Paranoid Ideation, Cognitive Reappraisal, Positive & Negative Affect, and Life Satisfaction, moderated by Expressive Suppression for Males

	95% CI				Z	p
	β	SE	Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X ExSupr	-0.13	0.10	-0.33	0.06	-1.286	0.198
Interaction: MD X ExSupr	-0.12	0.06	-0.26	0.01	-1.84	0.065
Outcome: Cogn. Reappraisal						
Interaction SA X ExSupr	-0.25	0.16	-0.57	0.06	-1.53	0.124
Interaction MD X ExSupr	0.09	0.11	-0.13	0.312	0.796	0.426
Outcome: Positive Affect						
Interaction: SA X ExSupr	-0.19	0.11	-0.40	0.02	-1.72	0.084
Interaction: MD X ExSupr	0.04	0.07	-0.10	0.18	0.56	0.574
Outcome: Negative Affect						
Interaction: SA X ExSupr	-0.11	0.13	-0.37	0.14	-0.85	0.394
Interaction: MD X ExSupr	-0.03	0.09	-0.21	0.14	-0.39	0.690
Outcome: Life Satisfaction						
Interaction: SA X ExSupr	-0.03	0.16	-0.36	0.29	-0.22	0.820
Interaction MD X ExSupr	0.05	0.11	-0.15	0.27	0.52	0.599

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ExSupr: expressive suppression.

Table 8

Conditional Effects of SA & MD on Paranoid Ideation, ERQ, Positive & Negative Affect, and Life Satisfaction, moderated by Spirituality for Males

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X Spirit	-0.063	0.163	-0.382	0.256	-0.384	0.699
Interaction: MD X Spirit	-0.096	0.108	-0.308	0.117	-0.881	0.378
Outcome: Cogn. Reappraisal						
Interaction SA X Spirit	0.102	0.261	-0.408	0.613	0.393	0.694
Interaction MD X Spirit	0.019	0.170	-0.314	0.351	0.110	0.912
Outcome: Expr. Suppression						
Interaction SA X Spirit	-0.710	0.262	-1.224	-0.196	-2.708	0.007*
Simple Slope Analysis						
M-1SD	0.901	0.488	-0.055	1.858	1.847	0.065
M	0.204	0.295	-0.374	0.783	0.692	0.489
M+1SD	-0.493	0.281	-1.044	0.058	-1.755	0.079
Interaction MD X Spirit	-0.531	0.175	-0.874	-0.187	-3.030	0.002*
Simple Slope Analysis						
M-1SD	0.713	0.298	0.129	1.297	2.392	0.017*
M	0.192	0.196	-0.193	0.577	0.976	0.329
M+1SD	-0.329	0.231	-0.782	0.123	-1.428	0.153
Outcome: Positive Affect						
Interaction: SA X Spirit	0.135	0.108	-0.076	0.347	1.253	0.210
Interaction: MD X Spirit	0.215	0.171	-0.121	0.551	1.251	0.210

Conditional Effects of SA & MD on Paranoid Ideation, ERQ, Positive & Negative Affect, and Life Satisfaction, moderated by Spirituality for Males

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Negative Affect						
Interaction: SA X Spirit	0.098	0.205	-0.304	0.500	0.478	0.633
Interaction: MD X Spirit	-0.032	0.138	-0.302	0.238	-0.235	0.814
Outcome: Life Satisfaction						
Interaction: SA X Spirit	0.257	0.254	-0.241	0.755	1.011	0.312
Interaction MD X Spirit	0.210	0.157	-0.098	0.517	1.335	0.182

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ERQ: Emotion Regulation Questionnaire; spirit: spirituality; * significant at $p < 0.05$ level; ** significant at $p < .001$ level.

Table 9

Conditional Effects of SA & MD on Paranoid Ideation, Expressive Suppression, Positive & Negative Affect, and Life Satisfaction Moderated by Cognitive Reappraisal for Females

	β	SE	95% CI		Z	p
			Lower	Upper		
<hr/>						
Outcome: Par. Ideation						
Interaction: SA X CgReap	-0.08	0.12	-0.32	0.15	-0.71	0.478
Interaction: MD X CgReap	0.07	0.08	-0.08	0.23	0.961	0.337
<hr/>						
Outcome: Expr. Supr.						
Interaction: SA X CgReap	0.00	0.19	-0.37	0.37	0.005	0.996
Interaction: MD X CgReap						
Simple Slope Analysis	0.294	0.125	0.050	0.539	2.359	0.018*
M-1SD	-0.438	0.212	-0.854	-0.021	-2.061	0.039*
M	-0.112	0.157	-0.420	0.196	-0.713	0.476
M+1SD	0.213	0.210	-0.198	0.625	1.016	0.310
<hr/>						
Outcome: Positive Affect						
Interaction: X CgReap	0.15	0.11	-0.05	0.36	1.468	0.142
Interaction MD X CgReap	0.13	0.06	-0.01	0.26	1.878	0.060
<hr/>						
Outcome: Negative Affect						
Interaction: SA X CgReap	0.047	0.14	-0.23	0.32	0.329	0.742

Conditional Effects of SA & MD on Paranoid Ideation, Expressive Suppression, Positive & Negative Affect, and Life Satisfaction Moderated by Cognitive Reappraisal for Females

	β	SE	95% CI		Z	p
			Lower	Upper		
<hr/>						
Interaction: MD X						
CgReap	0.222	0.092	0.041	0.403	2.400	0.016*
M-1SD	-0.380	0.158	-0.689	-0.072	-2.415	0.016*
M	-0.135	0.117	-0.364	0.094	-1.157	0.247
M+1SD	0.110	0.156	-0.195	0.416	0.709	0.479
<hr/>						
Outcome: Life Satisfaction						
Interaction: SA X						
CgReap	0.13	0.18	-0.22	0.49	0.714	0.476
Interaction MD X						
CgReap	0.312	0.118	0.080	0.544	2.637	0.008*
Simple Slope Analysis						
M-1SD	-0.167	0.203	-0.564	0.231	-0.823	0.411
M	0.178	0.150	-0.116	0.473	1.186	0.236
M+1SD	0.523	0.200	0.130	0.916	2.611	0.009*

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; CgReap: cognitive reappraisal; significant at the $p < 0.05$ level.

Table 10

Conditional Effects of SA & MD on Paranoid Ideation, Cognitive Reappraisal, Positive & Negative Affect, and Life Satisfaction, moderated by Expressive Suppression for Females

	95% CI				Z	p
	β	SE	Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X ExSupr	0.07	0.08	-0.08	0.23	0.88	0.375
Interaction: MD X ExSupr	-0.01	0.07	-0.15	0.13	-0.15	0.878
Outcome: Cogn. Reappraisal						
Interaction SA X ExSupr	-0.05	0.11	-0.28	0.17	-0.483	0.629
Interaction MD X ExSupr	0.03	0.10	-0.17	0.23	0.291	0.771
Outcome: Positive Affect						
Interaction: SA X ExSupr	0.11	0.07	0.04	0.26	1.41	0.159
Interaction: MD X ExSupr	0.07	0.06	-0.05	0.21	1.137	0.255
Outcome: Negative Affect						
Interaction: SA X ExSupr	-0.03	0.10	-0.23	0.16	-0.351	0.725
Interaction: MD X ExSupr	-0.05	0.08	-0.22	0.11	-0.605	0.545
Outcome: Life Satisfaction						
Interaction: SA X ExSupr	0.19	0.13	-0.08	0.46	1.375	0.169
Interaction MD X ExSupr	0.16	0.12	-0.07	0.41	1.381	0.167

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ExSupr: expressive suppression.

Table 11

Conditional Effects of SA & MD on Paranoid Ideation, ERQ, Positive & Negative Affect, and Life Satisfaction, moderated by Spirituality for Females

	β	SE	95% CI		Z	p
			Lower	Upper		
Outcome: Paranoid Ideation						
Interaction: SA X Spirit	-0.00	0.11	-0.22	0.21	-0.066	0.947
Interaction: MD X Spirit	-0.11	0.10	-0.31	0.08	-1.139	0.255
Outcome: Cogn. Reappraisal						
Interaction SA X Spirit	0.26	0.15	-0.03	0.55	1.737	0.082
Interaction MD X Spirit	0.249	0.136	-0.018	0.516	1.826	0.068
Outcome: Expr. Suppression						
Interaction SA X Spirit	-0.03	0.17	-0.37	0.31	-0.194	0.846
Interaction MD X Spirit	-0.10	0.15	-0.41	0.21	-0.638	0.524
Outcome: Positive Affect						
Interaction: SA X Spirit	-0.01	0.09	-0.20	0.18	-0.081	0.935
Interaction: MD X Spirit	0.04	0.08	-0.13	0.22	0.553	0.580
Outcome: Negative Affect						
Interaction: SA X Spirit	0.17	0.12	-0.07	0.43	1.393	0.164
Interaction: MD X Spirit	0.07	0.11	-0.15	0.30	0.604	0.546
Outcome: Life Satisfaction						
Interaction: SA X Spirit	0.02	0.17	-0.33	0.37	0.119	0.906
Interaction MD X Spirit	0.26	0.15	-0.04	0.5	1.675	0.094
Simple Slope Analysis						

Note. M: mean; SD: standard deviation; SA: synchronicity awareness; MD; meaning-detection; ERQ: Emotion Regulation Questionnaire; Spirit: spirituality.

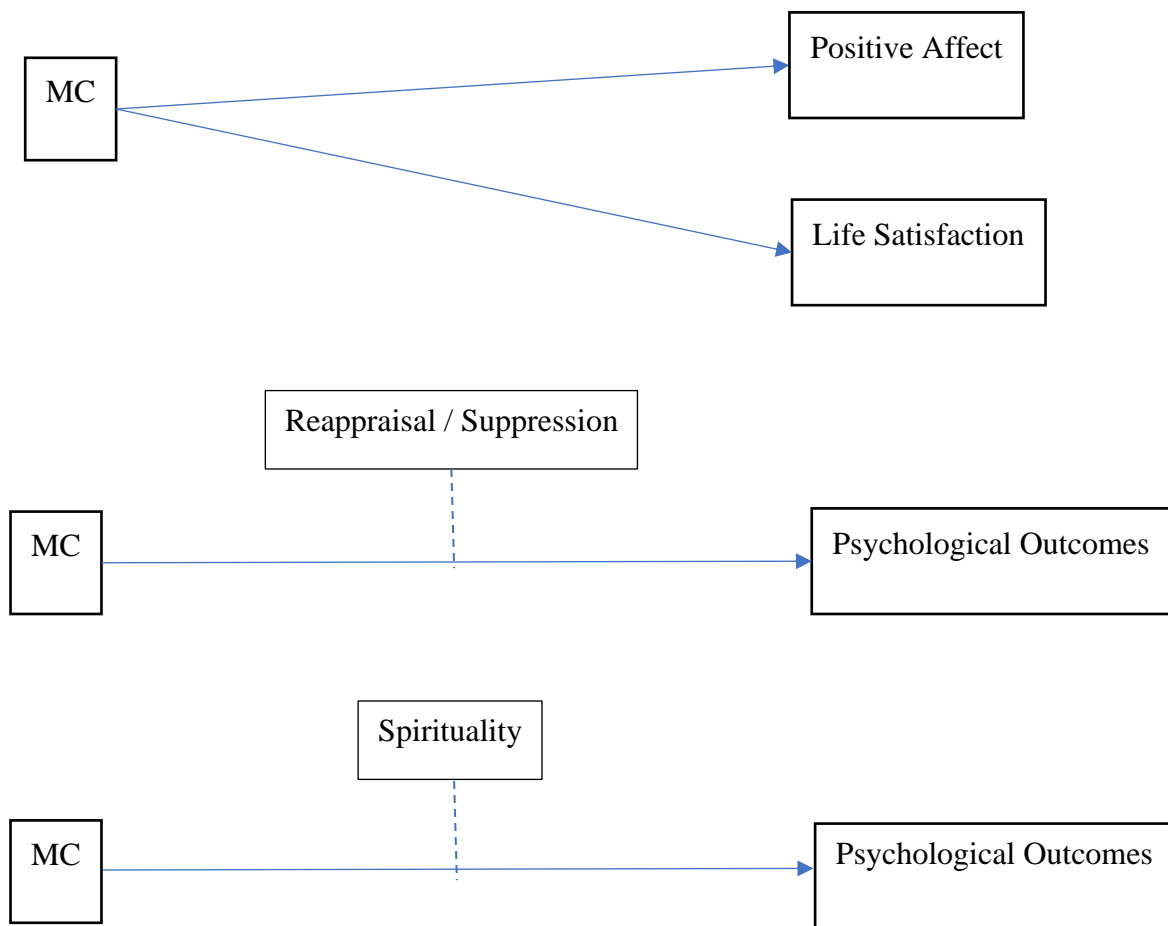


Figure 1: Hypotheses before data collection. Direct impact of Meaningful Coincidences on Positive Affect and Life Satisfaction (model 1). Emotion Regulation will have a moderating effect on the impact of Meaningful Coincidences on Psychological Outcomes (model 2). Spirituality will have a moderating effect on the impact of Meaningful Coincidences on Psychological Outcomes (model 3).

Simple Slope Plot

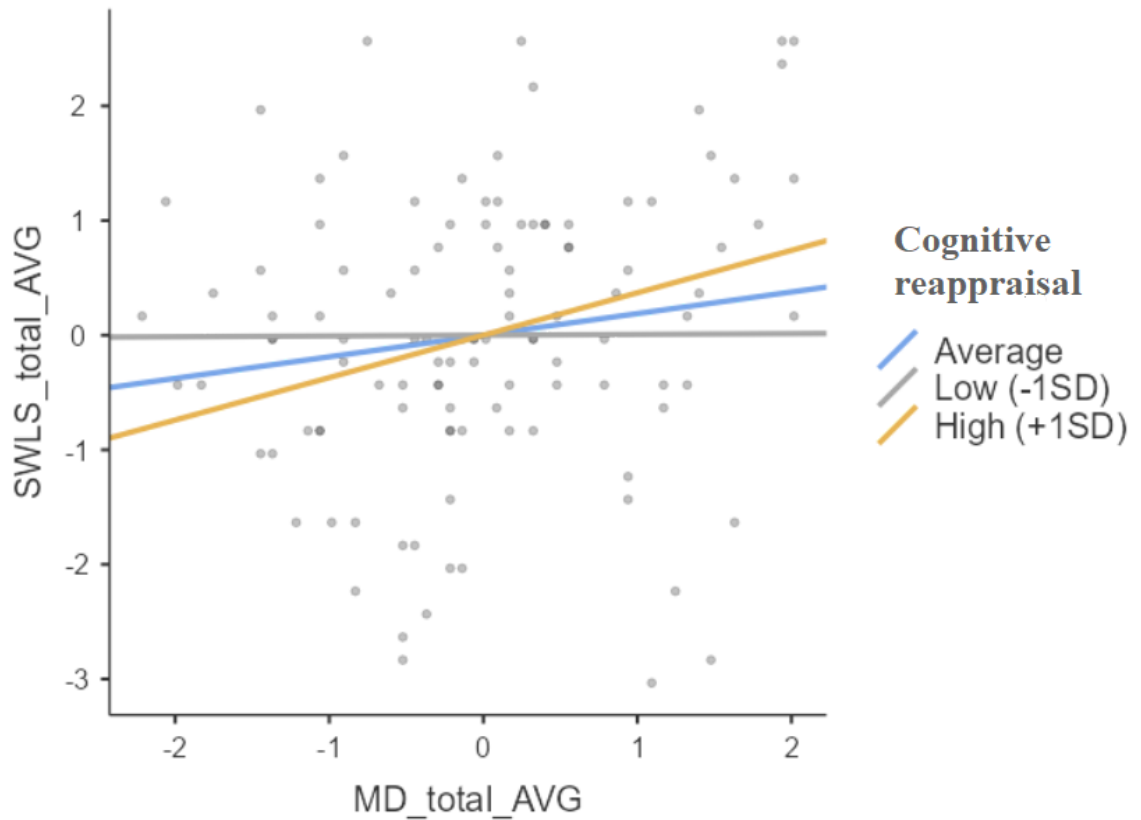


Figure 2: The impact of meaning detection (MD) on life satisfaction (SWLS) was significantly moderated by **cognitive reappraisal**. Those who utilize cognitive reappraisal above average had a positive significant impact from meaning detection on their life satisfaction; for those who utilize cognitive reappraisal averagely or rarely there was no significant effect.

Simple Slope Plot

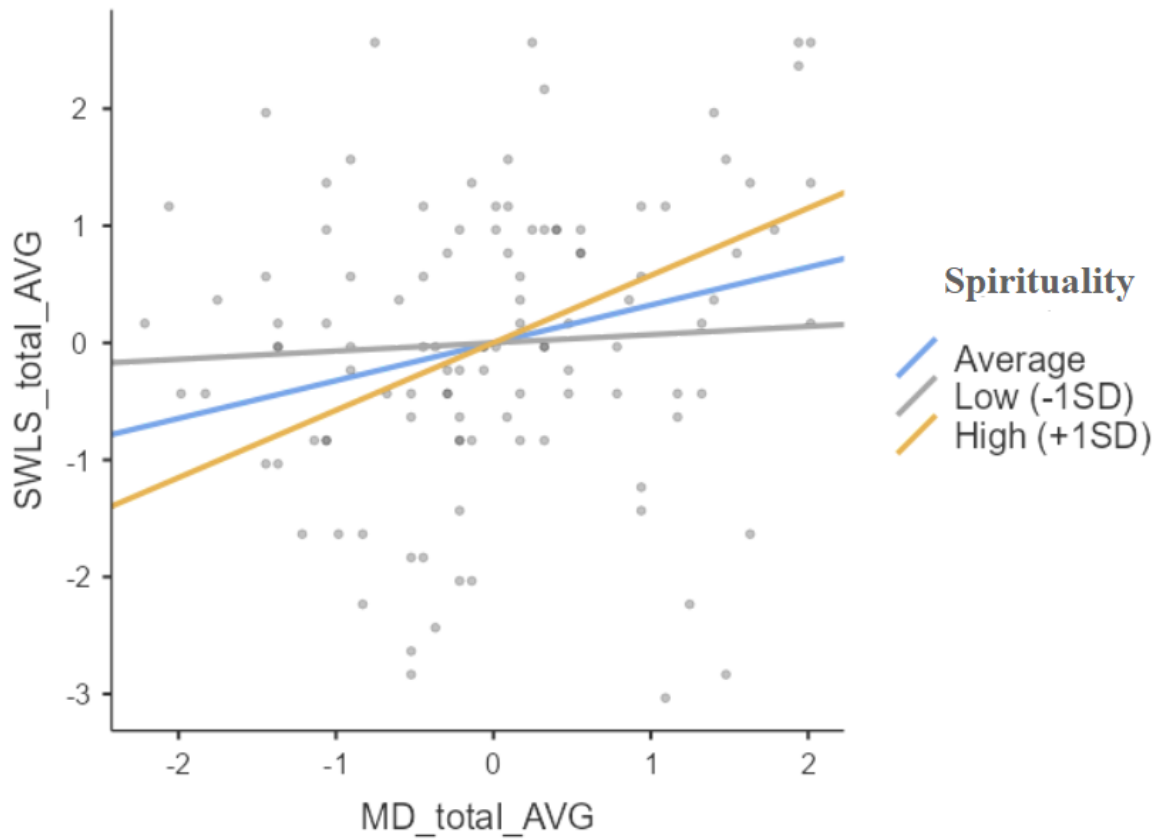


Figure 3: The impact of Meaning Detection (MD) on Life Satisfaction (SWLS) was significantly moderated by **spirituality**; those who scored average and above average on spirituality had a positive impact from meaning detection on their life satisfaction, compared to those with low self-reported spirituality; for those with above average spirituality, the effect was stronger compared to average.

Simple Slope Plot

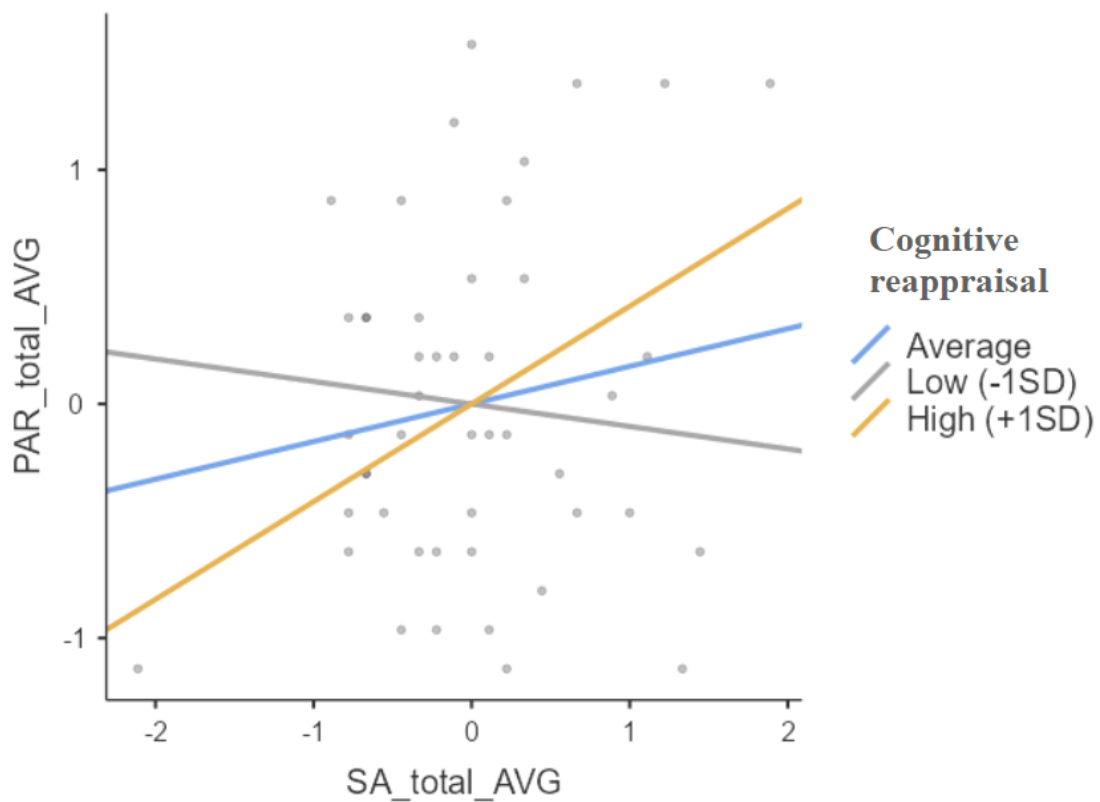


Figure 4: For males only, the impact of Synchronicity Awareness (SA) on Paranoid Ideation (PAR) was significantly moderated by **cognitive reappraisal**; for males who scored above average on cognitive reappraisal SA predicted increases in their paranoid ideation levels; for those who utilize cognitive reappraisal averagely or below average there was no significant effect.

Simple Slope Plot

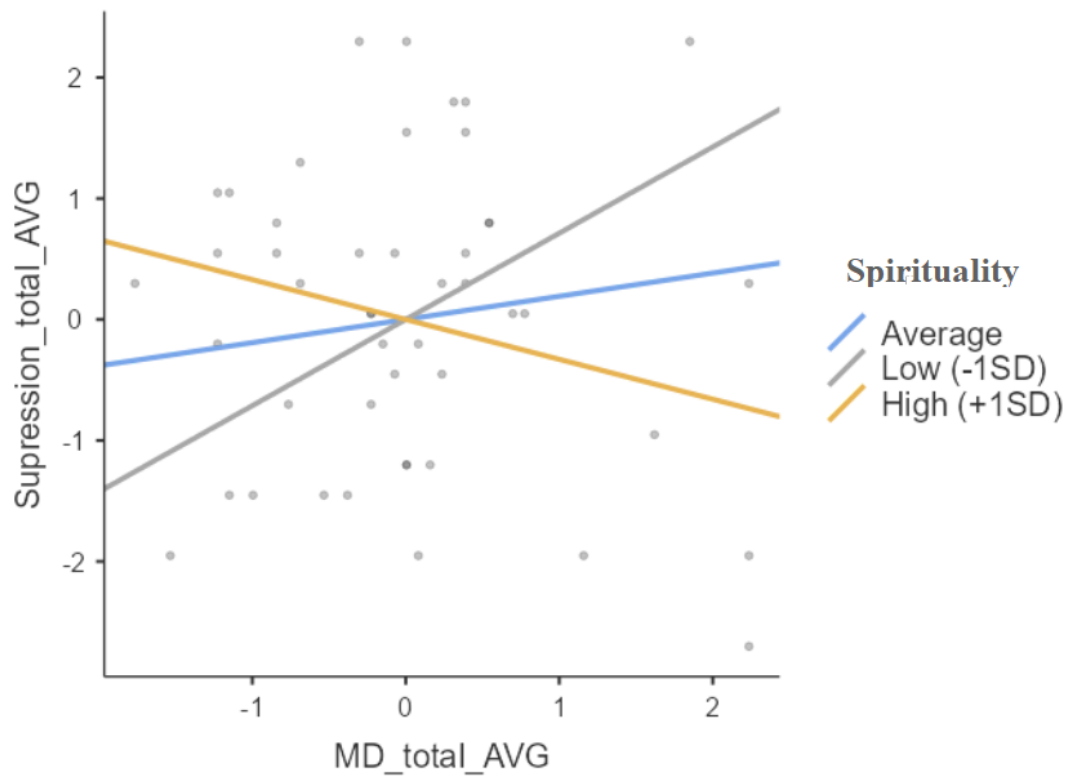


Figure 5: For males only, the impact of Meaning Detection (MD) on Expressive Suppression was significantly moderated by **spirituality**. For males with below average spirituality, meaning detection predicted increases in their expressive suppression of emotions.

Simple Slope Plot

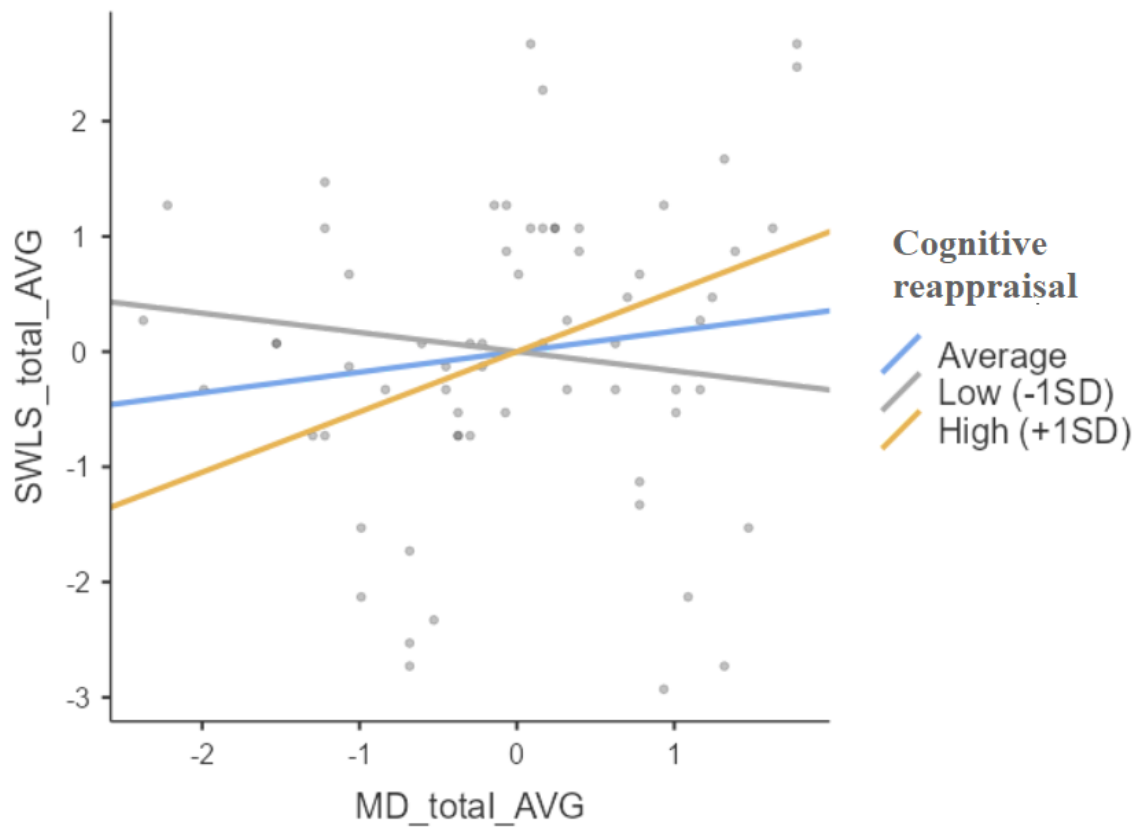


Figure 6: For females only, the impact of Meaning Detection (MD) on Life Satisfaction (SWLS) was significantly moderated by **cognitive reappraisal**. For females with above average cognitive reappraisal, meaning detection predicted increases in their life satisfaction levels; for those with average or below average cognitive reappraisal levels there was no significant effect.

Simple Slope Plot

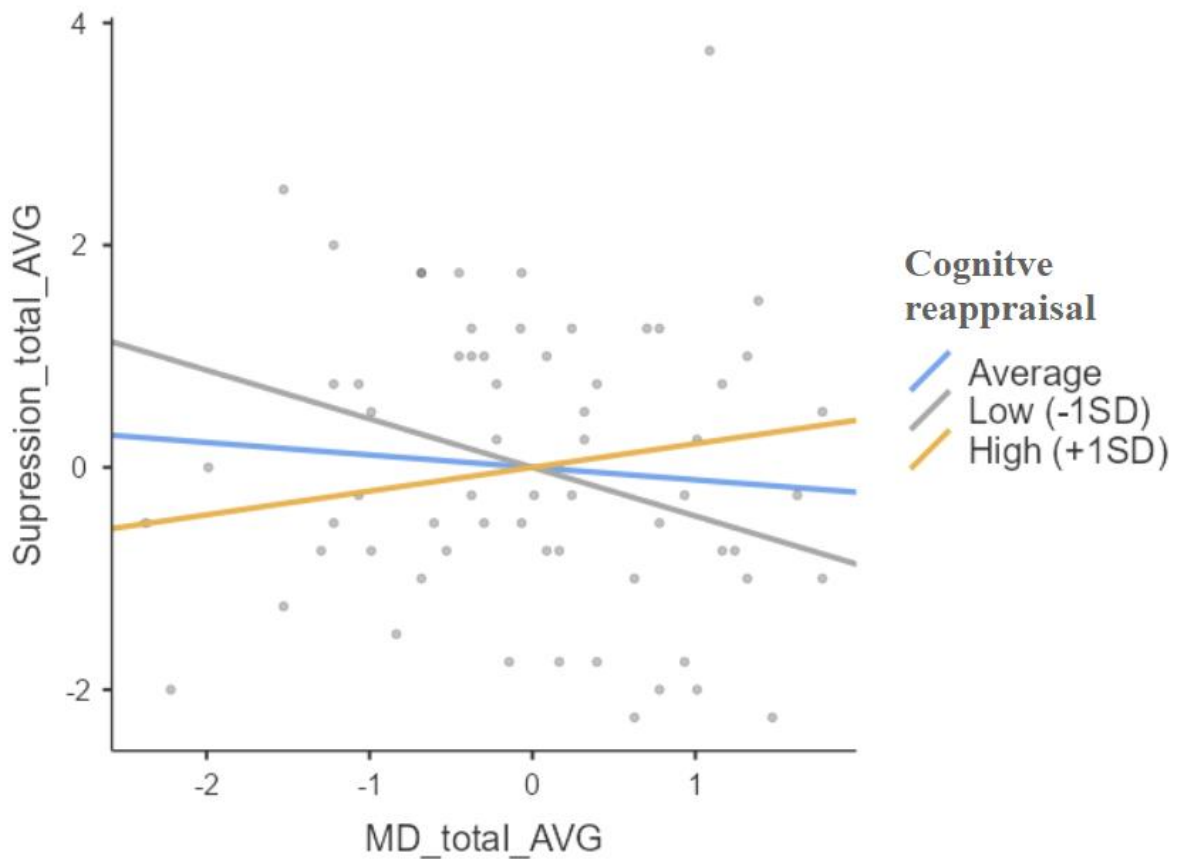


Figure 7: For females only, the impact of Meaning Detection (MD) on Expressive Suppression was significantly moderated by **cognitive reappraisal**. For females with below average cognitive reappraisal, meaning detection predicted decreases in their expressive suppression of emotions; for those with average or above average cognitive reappraisal levels there was no significant effect.

Simple Slope Plot

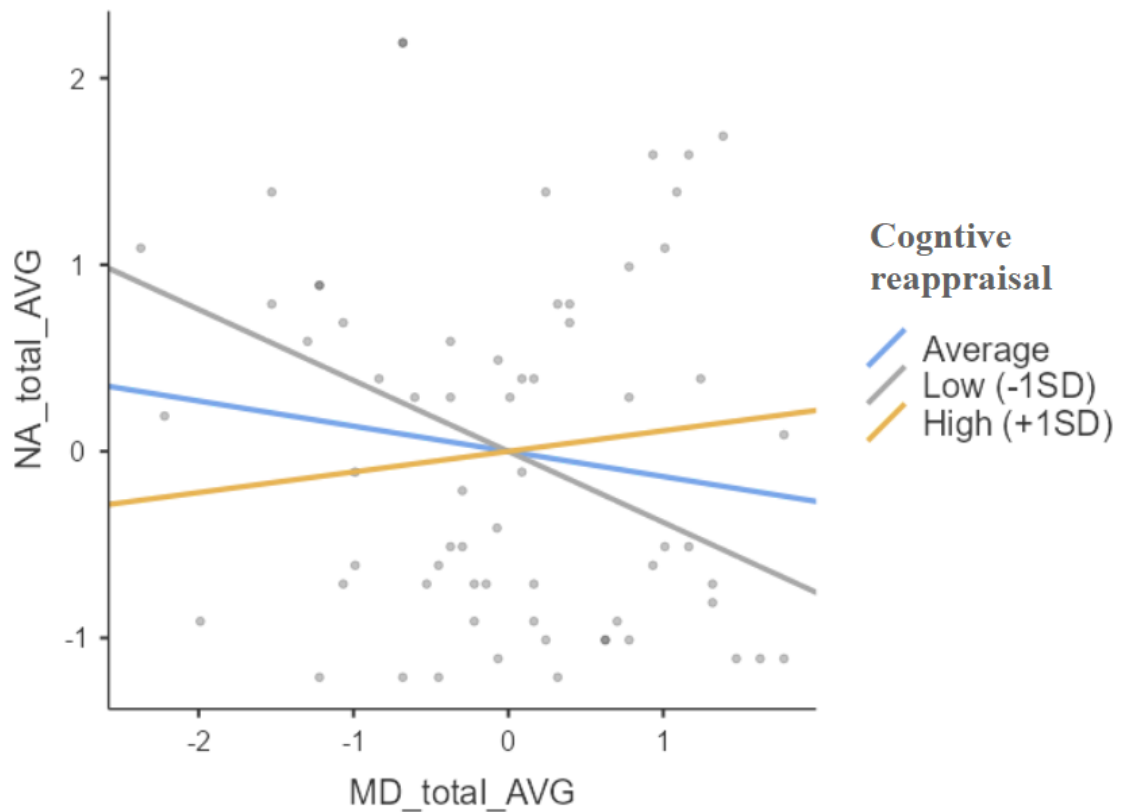


Figure 8: For females only, the impact of Meaning Detection (MD) on Negative Affect (NA) was significantly moderated by **cognitive reappraisal**. For females with below average cognitive reappraisal, meaning detection predicted decreases in their negative affect levels; for those with average or above average cognitive reappraisal levels there was no significant effect.

Appendix A

Demographic Information

Instructions: Please provide below a few general information about yourself by filling the space provided or circling the appropriate category.

1. How old are you? _____

2. What is your biological gender? _____

3. What is your ethnicity? (please circle one or both answers)

a) Greek b) Other (please specify): _____

4. Are you an undergraduate or graduate student? (please select one):

a) Undergraduate b) Graduate

5. What is your major? (e.g. Psychology): _____

6. To what extent do you consider yourself a religious person?

a) Not religious at all b) Slightly c) Moderately d) Very
religious

7. To what extent do you consider yourself a spiritual person?

a) Not spiritual at all b) Slightly c) Moderately d) Very
spiritual

Appendix B

Synchronicity Awareness

Instructions: In our daily lives, surprising and unlikely events may occur. Below are examples of such possible occurrences. For each example try to remember whether you experienced it and indicate the degree of frequency in your life.

(0 = never, 1 = once, 2 = twice or more, 3 = rarely, 4 = often, 5 = all the time)

1. I felt that I was “in the right place, at the right time”.
2. I ran into something or someone that I thought about in an unexpected place.
3. I ran into a situation or a personal encounter that opened up new opportunities.
4. I experienced an extraordinary synchronization of thought, behavior, or words with another person.
5. I received an answer to a certain need I had in an unpredictable way (e.g., a partner, a job offer, or an apartment).
6. I thought or dreamt about a person and then I met him\her somehow in the real world shortly afterwards
7. I thought about a person and he\she contacted me unexpectedly shortly afterwards.
8. I thought about a particular idea and then I saw it as an external image (e.g., a quote, an ad, or a song).
9. While in nature, I felt a strong sense of connection to the world.

Meaning Detecting

Instructions: Read carefully each of the following items and indicate the degree to which each of these items best describes you.

(1 = not at all 4 = somewhat 7 = to a high degree)

1. I believe that unexplained events enable new discovery and development.
2. I find signs of inner feelings in the external stimuli in the world around me.
3. I find meaning in unexplained occurrences.
4. I believe that listening to internal and external occurrences enables new discoveries.
5. I sometimes feel that the environment “sends” me signals.
6. Following experiences I’ve had, I have a sense of deep knowing of myself and the world.
7. I am open to experiences that may not necessarily be explained by reason or causality.
8. I tend to be attentive to intuition in my everyday life.
9. I am curious about surprising events in my life.
10. I walk around in the world with a sense of awe and wonder from the opportunities and surprises that the world has to offer.
11. It happens that things related to issues I am concerned with suddenly appear more in my everyday life.
12. I believe that there is something to be learned from any event in life.
13. I tend to be attentive to physical and bodily sensations (e.g., goosebumps, pain, sense of warmth).

PAR-6 from SCL-90

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, select one of the numbered descriptors that best describes HOW MUCH THAT PROBLEM HAS BOTHERED OR DISTRESSED YOU DURING THE PAST WEEK, INCLUDING TODAY. Circle the number in the space to the right of the problem and do not skip any items. Use the following key to guide how you respond:

0 = NOT AT ALL

1 = A LITTLE BIT

2 = MODERATELY

3 = QUITE A BIT

4 = EXTREMELY

HOW MUCH WERE YOU BOTHERED BY:

1. Feeling others are to blame for most of your troubles _____
2. Feeling that most people cannot be trusted _____
3. Feeling that you are watched or talked about by others _____
4. Having ideas or beliefs that others do not share _____
5. Others not giving you proper credit for your achievements _____
6. Feeling that people will take advantage of you if you let them _____

Appendix D

Positive Affect Negative Affect Schedule (PANAS)

Instructions: Below there is a list of words that describe different feelings and emotions.

Please

read each word and think to what extent you feel this way currently. Using the scale below, please select a number (from 1 to 5) relevant to you and write it in the space next to that word.

1-----	-----2-----	-----3-----	-----4-----	-----
5				
very slightly	or not at all	a little	moderately	quite a bit
extremely				

_____ interested	_____ irritable
_____ distressed	_____ alert
_____ excited	_____ ashamed
_____ upset	_____ inspired
_____ strong	_____ nervous
_____ guilty	_____ determined
_____ scared	_____ attentive
_____ hostile	_____ jittery (anxious)
_____ enthusiastic	_____ active
_____ proud	_____ afraid

Appendix F Informed Consent Form

Purpose of the study

My name is Antonios Oikonomopoulos and you are invited to participate in a study aiming to explore the phenomenon of “meaningful” coincidences. The present research is conducted for the fulfillment of my MSc thesis in Counseling Psychology & Psychotherapy, supervised by Dr. C. Nega. The study has been reviewed and approved by the by IRB (Institution Review Board) at Deree, the American College of Greece.

Method/Procedure

If you decide to participate, first you will be asked to answer a few demographic questions. Then, you will be asked to complete five brief questionnaires evaluating a series of statements (e.g. " I sometimes feel that the environment “sends” me signals”). A sample of survey questions is provided for you to inspect to help you make an informed decision. As a whole, the procedure is expected to last approximately 15 minutes.

Risks and Benefits

Participation in this study does not entail any known risks. Your participation would be a valuable contribution to the study conducted and, thus, to potential advancement of knowledge on the subject. What is more, you will benefit by gaining first-hand experience of participating in a survey study and an opportunity to reflect on your own experiences.

Voluntary Nature of Participation/Anonymity

Participation is voluntary and you are free to deny participation or terminate at any time without giving any reasons for your withdrawal. In this case, the information you've provided will be excluded from any further processing.

For those who do decide to participate, anonymity is assured as you will not be asked to provide any personally identifying information. There is no code number on the survey that can be connected back to a participant’s name either directly or through a coded list. On completion of the procedure all material will be securely stored while only me and the supervisor will have access to it.

Contacts and Questions

Additional information regarding this study will be provided upon request. Please, feel free to contact me at a.oikonomopoulos@acg.edu, or my supervisor, Dr. C. Nega at cnega@acg.edu.

(Note: You must be 18 years of age or older to participate in this study. Let the researcher know if you are under 18 years old).

Statement of Consent:

“I have read and understood the information provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.”

Appendix G

Debriefing

Dear participant!

Thank you so much for participating in my research. The aim of this study is to investigate the interplay between the search for meaning in synchronicity experiences and psychological well-being (emotion regulation, paranoid ideation, positive/negative affect, and life-satisfaction).

First, you were asked to provide a few demographic information, including measures for religiosity and spirituality. Then, you completed a series of questionnaires assessing the frequency you experience synchronicities (e.g. *I thought about a person and he/she contacted me unexpectedly shortly afterwards*) and the detection of meaning in them (e.g. *I sometimes feel that the environment "sends" me signals*), the paranoid ideation subscale of the Symptom Checklist (SCL-90; e.g. *Feeling others are to blame for most of your troubles*), the Emotion Regulation Questionnaire (ERQ) composed of two subscales for cognitive reappraisal (e.g. *I control my emotions by changing the way I think about the situation I'm in*) and expressive suppression (e.g. *I keep my emotions to myself*). Also, you were asked to report on your positive and negative emotions (e.g. *inspired*), along with your overall satisfaction with life.

Based on previous research, it is hypothesized that a propensity to experience meaningful coincidences will be related to increased positive affect and life satisfaction. The relationship between meaningful coincidences and paranoid ideation, emotion regulation, and negative affect will be approached in an exploratory non-directional manner. Moreover, it is expected that emotion regulation and spirituality will moderate the link between meaningful coincidences and psychological well-being. You can find more about this line of research in the following articles:

- Coleman, S. L., Beitman, B. D., & Celebi, E. (2009). Weird coincidences commonly occur. *Psychiatric Annals*, 39, 265–270. doi:10.3928/00485713-20090421-03
- Russo-Netzer, P., & Icekson, T. (2023). An underexplored pathway to life satisfaction: The development and validation of the synchronicity awareness and meaning-detecting scale. *Frontiers in Psychology*, 13, 1053296. <https://doi.org/10.3389/fpsyg.2022.1053296>
- Unger, I., Wabnegger, A., & Schienle, A. (2021). The association between the propensity to experience meaningful coincidence and brain anatomy in healthy females: The moderating role of coping skills. *Consciousness and Cognition*, 91, 103132. <https://doi.org/10.1016/j.concog.2021.103132>

Please also be reminded that in case you have concerns having been fully informed about this study, you still have the right to have your data withdrawn. There are no known risks associated with this study. However, if you experienced any psychological discomfort during or after the completion of the survey, you might want to contact the Counseling Center of the American College of Greece (210-600 9800, ext. 1080, 1081).

If you have any questions about my study, or if you wish to obtain a summary of the findings, please feel free to contact me at: A.Oikonomopoulos@acg.edu.

I would like to thank you once again for your valuable time and interest!