

Kaia Hågensli

Everything happens for a reason: Researching the connections between Belief, Synchronicity, and Meaning in Life

Bachelor's thesis in Psychology

Supervisor: Leon De Beer

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Preface

After reading the description of the project, I found myself captivated by the intriguing concept of synchronicity and its potential implications in our daily lives. I had previously not heard of synchronicity, and neither had any of my friends or family, which intrigued me even more. I started reading suggested material, immersing myself in the literature. As I delved deeper, I began to discern a possible relationship between belief, synchronicity, and the perceived meaning of life - an area that had received relatively little attention in previous research. I engaged in further reading and independent exploration, scouring databases such as Medline (Ebsco), SCOPUS, and Google Scholar for additional insights.

Collaborating as a group with my supervisor and fellow group members, we collectively formulated a survey. Leon De Beer provided appropriate scales, while the group contributed to the translation of the survey from English to Norwegian and ensured the quality and precision of the questions. Notably, the addition of the "Belief in divine power" question emerged from our collective effort to enhance the survey's accuracy. I explored the possibility of conducting a mediation analysis and formulated hypotheses suitable to my interests. This analytical approach was subsequently expanded upon independently. I conducted this thesis independently, with occasional guidance sought from my supervisor for clarification. I sourced the literature, authored the thesis, and conducted the analysis autonomously.

I extend my gratitude to my supervisor, Leon De Beer, for his feedback and guidance throughout the writing process. Additionally, I send my appreciation to my fellow group members for the discussions and support, which enriched this research endeavor.

This thesis is written in accordance with the publication manual of the American Psychological Association, 7th edition (American Psychological Association, 2020).

Sammendrag

I et samfunn der eksistensielle spørsmål blir stadig mer relevant, så er forståelsen av dynamikken mellom trossystemer, synkronisitetsbevissthet og opplevd mening i livet berikende for vår forståelse av den menneskelige psyken og tilbyr praktiske implikasjoner for å fremme motstandskraft og velvære hos enkeltpersoner som står overfor eksistensiell usikkerhet. Denne studien undersøker forholdet mellom tro, synkronisitetsbevissthet, meningsoppdagelse og mening i livet. Ved bruk av en kvantitativ forskningsmetode ble data samlet inn via en undersøkelse distribuert til 204 norske borgere. Deltakerne oppga informasjon om sine erfaringer med synkrone hendelser, tro på religion og åndelighet, deres oppfattede mening i livet, og demografiske variabler. En medierende analyse blir brukt i denne studien, som tillater undersøkelse av indirekte effekter og veier. En undersøkelse på hvilken variabel påvirker en annen, som gir en mer nyansert forståelse av forholdene mellom variablene. Resultatene avdekker betydningsfulle korrelasjoner mellom tro, synkronisitetsbevissthet og meningsoppdagelse, noe som indikerer troens innflytelse på enkeltpersoners oppfatning av synkrone opplevelser. Imidlertid forutsier ikke tro direkte overordnet oppfattet mening i livet. I stedet identifiseres indirekte veier, som antyder at troen indirekte påvirker mening i livet gjennom synkronisitetsbevissthet og meningsoppdagelse. Funnene understreker viktigheten av videre forskning for å utforske ytterligere faktorer som bidrar til oppfatningen av mening, og dermed forbedre vår forståelse av dette fenomenet.

Abstract

In a society where existential questions are increasingly relevant, understanding the intricate dynamics between belief systems, synchronicity awareness, and perceived meaning in life enriches our comprehension of the human psyche and offers practical implications for fostering resilience and well-being in individuals facing existential uncertainties. This study aims to examine the relationship between belief, synchronicity awareness, meaning detection, and meaning in life. By using a quantitative research approach, data were collected via a survey distributed to 204 Norwegian citizens. Participants provided information about their experiences with synchronistic events, beliefs regarding religion and spirituality, their perceived sense of meaning in life, and demographic variables. Mediation analysis is utilized in this study, allowing the examination of indirect effects and pathways through which one variable influences another, providing a more nuanced understanding of the relationships among variables. Results reveal significant correlations between belief, synchronicity awareness, and meaning detection, indicating the influence of belief on individuals' perceptions of synchronistic experiences. However, belief does not directly predict overall perceived meaning in life. Instead, indirect pathways are identified, suggesting that belief indirectly influences overall meaning through synchronicity awareness and meaning detection. The findings highlight the importance of further research to explore additional factors contributing to the perception of meaning, thereby enhancing our understanding of this phenomenon.

When an unlikely event occurs, like an improbable coincidence, you might have heard the saying, “Everything happens for a reason”. For example, thinking of an old friend you haven't seen in years, and moments later receiving a phone call or text message from that very person, without any prior communication or arrangement. Such occurrences can prompt contemplation about the interconnectedness of the universe and the presence of unseen forces. Within many religious and spiritual communities, this saying is often used to elucidate the will of a higher power, such as God, providing comfort that every occurrence is part of a divine plan, and reassuring individuals that whatever happens has a purpose. Belief, encompassing religious, spiritual, and existential convictions, is often regarded as a foundational aspect of an individual's worldview. Within the context of meaning in life, belief systems play a crucial role in shaping perceptions of purpose, coherence, and significance. However, the mechanisms through which belief influences one's sense of meaning in life remain complex and multifaceted.

Understanding the concept of meaning in life is fundamental to exploring the complexities of human existence and experience. It delves into the fundamental questions of why we are here, what our purpose is, and how we derive significance from our actions and experiences. The concept of “meaning in life” has therefore recently gained relevance within social sciences for its role in psychological well-being, happiness (French & Joseph, 1999), and physical health (Nielsen & Hansson, 2007; Roepke et al., 2014; Steger, 2012). While some research on meaning in life and its connections have been conducted (Beitman et al., 2010; Michael & Michael, 2009; Steger, 2012) and some studies have further looked into the effect belief has on meaning (French & Joseph, 1999; Wang et al., 2016), there is still a lack of research on the role improbable coincidences might have in these dynamics.

For psychologist Jung, these coincidences were meaningful and worthy of further study, coining the term “synchronicity” to describe these events. Synchronicity is a concept that suggests events might be connected in a meaningful way, even if they don't have a clear cause-and-effect relationship (Jung, 1985). It's when events happen at the same time or in a way that seems too coincidental to just be a random chance. People who believe in synchronicity think that these events might be trying to tell us something or that there's a deeper order in the universe that we don't fully understand. Jung suggested that experiencing coincidental, unpredictable occurrences such as synchronistic events has underlying meaning or reason to the individual and can be beneficial in self-improvement and -discovery, potentially giving life more meaning (Jung, 1985).

A major part of researching meaning in life is looking into what gives an increased perception of it. A notable study presented that synchronicity awareness mediated the relationship between the search for meaning and meaning-detecting (Russo-Netzer & Ickson, 2023). Put simply, the results showed that experiencing synchronicities and finding personal meaning in them was instrumental in the search for and perceiving of meaning. This finding gives further reason to investigate the connection between synchronicity and meaning. The lack of data and research on synchronicity leaves gaps in our knowledge and inhibits our understanding of the phenomenon and the benefits it potentially brings.

Against this background, the purpose of this research is to answer the research question: “How does belief influence meaning in life, and what role does synchronicity awareness and meaning detection play in mediating this relationship?”. This study aims to expand the field of research, delving into the possible connection between belief, synchronicity, and meaning in life, opening up future research within the field of psychology and social sciences. The motivation behind the study is the lack of research on synchronicity. The paper is structured into four main sections. Firstly, a comprehensive review of the

literature on belief, synchronicity, meaning in life, and their interconnectedness. Secondly, the methodology and analytical approaches employed in the study. Following this, the paper presents and summarizes the findings. Finally, it concludes with a theoretical discussion and outlines implications and directions for future research.

Literature

Belief

Religion, spirituality, and a belief in a higher power have been central aspects of human culture and psychology for centuries, shaping individuals' perceptions, behaviors, and overall well-being. In this study, "belief" encompasses religion, spirituality, and belief in a divine power. Religion constitutes an organized belief system with structured rules, traditions, and practices, and often involves established institutions such as churches, mosques, religious organizations, and schools. In contrast, spirituality is more inward-focused, subjective, and personal, emphasizing individual connections to growth and transcendence. Individuals can be highly spiritual without adhering to religious doctrines, and vice versa (Zinnbauer et al., 2015). Furthermore, the absence or presence of a belief in a divine power can influence an individual's experiences and perceptions of the world. Considering religiosity or spirituality does not necessitate belief in a higher power, this differentiation was made clear in this research. This further shows the nuanced relationship between belief dimensions and their influence on our world perception.

For many, spirituality provides a framework through which they interpret and make sense of life events, existential questions, and their overall purpose. It often involves a personal connection to something greater than oneself, offering a sense of transcendence, connection, and meaning beyond the material realm. Religion, with its organized beliefs,

rituals, and traditions, provides a structured framework for understanding the purpose of life, moral values, and the nature of existence. Belief in a higher power, whether conceived as a deity, cosmic force, or divine energy, can imbue life with meaning by offering individuals a sense of purpose, guidance, and support. In the presence of meaning, belief systems contribute to individuals' subjective experiences of fulfillment, satisfaction, and purposefulness. Engaging with spirituality, participating in religious practices, or holding beliefs in a higher power can foster a sense of connection, belonging, and coherence in individuals' lives. Previous research precise that belief can be a source of meaning in life, being able to give a sense of purpose, assisting in the search for meaning, and providing a presence of meaning, as well as psychological support to an individual (Paloutzian & Park, 2014).

A multitude of studies have been conducted on belief and the impact it has on multiple dimensions of human living (Błażek & Besta, 2012; French & Joseph, 1999; Wang et al., 2016). The research on religion's impact on health has yielded mixed results. The Handbook of Religion and Health provides an overview of studies examining the relationship between religion and both mental and physical well-being. Some studies indicate that religion may have negative effects on health, leading to feelings of anxiety, suicidal ideation, and depression. However, most research conducted in this field, particularly in Western countries, disagrees with this notion. (Lucchetti et al., 2021). More supporting research suggests that religion can have positive effects, such as reducing the risk of suicide, depression, and substance abuse (Koenig et al., 2012).

A longitudinal study further explored this topic and found that attending religious services is associated with lower mortality rates, decreased heavy drinking and smoking, improved mental health, and greater overall psychosocial well-being, potentially contributing to better overall health and well-being (Chen et al., 2020). In a study on Chinese university students, it was discovered that psychological distress was associated with increased religious

involvement, which in turn correlated with greater perceptions of purpose in life and social support (Wang et al., 2016). Another recent study based in Europe discovered that individuals' self-reported religiosity correlated with lower self-assessed health, particularly among females (Berggren & Ljunge, 2021). These findings highlight the intricate relationship between religion and health, highlighting a need for additional research.

Jung, with his theory on synchronicity, aimed to come to an understanding of the relationship between internal and external states. Attempting to provide a ground where the spiritual and materialistic world could interact and affect each other (Jung, 1985).

Synchronicity and perceiving "signs from God" share a common basis in meaningful coincidences and guidance. Synchronicity involving events beyond cause-and-effect hints at deeper connections, and similarly, belief in divine signs entails interpreting meaningful occurrences as messages from a higher power. From this perspective, individuals who hold strong religious or spiritual beliefs may be more attuned to recognizing synchronistic events as manifestations of divine communication or intervention. Consequently, the belief in a higher power can provide a framework for interpreting synchronistic occurrences, enriching individuals' understanding of the interplay between the spiritual and material realms (Young, 2023).

Synchronicity

The term "synchronicity" initially introduced by Carl G. Jung back in the late 1920s is used to describe "circumstances that appear meaningfully related yet lack a causal connection" (Kerr, 2013). Jung spent more than five decades developing the concept of synchronicity, which he viewed as an acausal principle complementing traditional causality. He proposed that synchronicity involves meaningful events that occur without a direct cause, adding it as a fourth principle alongside space, time, and causality. He suggested that

individual experiences of synchronicity point to a deeper, ordered aspect of nature beyond human consciousness. In Jung's view, both personal individuation and larger-scale phenomena are influenced by an underlying principle of acausal but meaningful occurrences (Jung, 1985).

Jung himself recounted an example of synchronicity in his book "Synchronicity: An Acausal Connecting Principle." involving a young female patient he was treating. In the story, the patient tells Jung of a dream she had that involved her receiving a golden scarab. As the patient was explaining the dream to Jung an insect collided with the window of Jung's office, capturing Jung's attention and prompting him to open the window. Upon further inspection, the insect turned out to be the common rose-chafer scarab beetle, known for its golden coloring. This beetle, similar to the golden scarab from the patient's dream, is viewed as a symbol of rebirth. Jung viewed this incident as a turning point in the difficult case, as the patient, who had previously made no progress, was now able to move forward and break their defensive rationalism due to this synchronistic experience (Jung, 1985). This was an example of a psychic state that was represented by a physical situation.

Carl Jung's concept of synchronicity marks a departure from traditional deterministic views of causality in psychology. He proposed synchronicity as a complementary principle to causality, suggesting that certain events may be meaningfully connected beyond simple cause and effect. However, Jung's ideas on synchronicity have faced controversy and have not gained widespread scientific acceptance beyond adherents of Jungian principles. The phenomenon was never fully integrated into mainstream psychology research, due to its lack of empirical evidence and challenges in scientific testing. Unlike more traditional sciences like mathematics and physics, psychology deals with the complex and variable nature of human behavior, making it difficult to apply strict scientific methodologies. As a result, synchronicities have been difficult to investigate scientifically.

Efforts have been made to ground the concept of synchronicity in science, such as the Fibonacci Life-Chart Method (FLCM), which categorizes human development using Fibonacci numbers. Fibonacci numbers are a sequence where each number is the sum of the two preceding ones. It starts with 0 and 1, with subsequent numbers found by adding the two previous ones together. The FLCM is a unique approach to visualizing and organizing life events and goals. It involves using the Fibonacci sequence to assign numerical values to different life stages or goals, with each number representing a specific period of time or level of importance. Individuals may identify correlations or meaningful relationships between the two by assigning Fibonacci values to both life events and synchronistic occurrences. By mapping out life events or goals according to this sequence, individuals can gain insights into the progression and balance of their lives, helping them prioritize tasks and make informed decisions about their future (Sacco, 2016). With more scientifically grounded approaches like the FLCM, synchronicity may gain broader acceptance in psychology as well as give it further reason to be investigated.

Studies conducted on synchronicity have highlighted its positive effects, particularly in therapeutic settings (Lagutina, 2021; Marlo, 2022; Reefschläger, 2024). Research focusing on the clinical applications of synchronicity in therapy has demonstrated its potential to enhance the therapeutic process and its beneficial usage as a therapeutic tool. For instance, a study investigating synchronistic experiences in therapy found that therapists who approached these experiences with openness and interest contributed to positive developments in the therapeutic relationship and process (Reefschläger, 2024). Additionally, another study examined the benefits of synchronicity for individuals with early relational trauma, who may struggle with trust and connection. This research emphasized how openness to synchronistic experiences in relationships could facilitate healing and promote well-being (Lagutina, 2021). Collectively,

these findings suggest that embracing and finding meaning in synchronistic experiences may offer significant benefits for health and well-being.

A recent study aimed to further investigate synchronicity by researching its correlations to life satisfaction. The study used the Synchronicity Awareness and Meaning Detection Scale (SAMD), studying the multiple dimensions of synchronicity (Russo-Netzer & Ickson, 2023). Previous studies suggest that there are individualistic differences in the ability to notice coincidental events (Roesler, 2018) and derive meaning from them (Coleman et al., 2009). It is theorized that being aware of and finding meaning in synchronistic experiences can positively affect an individual and cultivate a feeling of meaning in life (Russo-Netzer & Shoshani, 2020). Based on these findings Russo-Netzer and Ickson created a scale in an attempt to measure several synchronistic experiences, but also the meaning derived from them. They assume there's a difference in an individual's tendency to detect synchronistic experiences and make sense of the experience.

Up till now, there has been no validated assessment tool to differentiate synchronicity awareness and meaning detection. Russo-Netzer and Ickson developed this tool in 2023, deeming the research in this field quite new. Through process mediation models, it was found that the relationship between the search for meaning and meaning detection was mediated by synchronicity awareness. Additionally, optimism and the presence of meaning in life were identified as partial mediators in the association between meaning detection and life satisfaction. This implies that the capacity to discern meaning in synchronistic events may play a role in enhancing overall meaning in life (Russo-Netzer & Ickson, 2023).

Meaning in life

Multiple definitions of “meaning in life” and what it entails have appeared over the years attempting to define the concept of meaning. For centuries, philosophers and individuals alike have attempted to find meaning in life and researched the possibility of globalizing the concept. What individuals see as having “meaning” or being “meaningful” is subjective and therefore hard to generalize. However, most definitions have described meaning in life as if an individual feels their existence is of significance, importance, and value (George & Park, 2017). The sources of human value are entirely subjective and can stem from an infinite number of sources. Factors such as age, gender, ethnicity, religion, spirituality, work, relationships, and life events significantly influence an individual's sense of meaning in life within social and cultural contexts.

Steger précised that to understand meaning in life it has to be viewed through two dimensions: the presence of meaning in life and the search for it. The search for meaning involves actively seeking purpose, significance, and coherence in one's life experiences and existential questions. This dimension reflects individuals' efforts to understand their place in the world, their values, and their goals in life. On the other hand, the presence of meaning pertains to the subjective sense of fulfillment, satisfaction, and purposefulness that individuals experience when they perceive their lives as meaningful. This dimension reflects a sense of contentment and alignment with one's values, goals, and sense of purpose (Steger et al., 2008).

To try and measure these subjective and relative dimensions of meaning several studies have attempted to develop a scale that measures an individual's feeling of meaning in life. The first notable studies suggested meaning in life as comprising two facets; comprehension and purpose (Steger, 2009). The studies suggest that comprehension involves recognizing consistency and identifying patterns in one's life, while significance is about

feeling that both oneself and one's life events are meaningful. Further studies have suggested a third facet, significance, as an essential part of mapping the construct meaning in life (Martela & Steger, 2016). While mattering and significance are regarded as synonyms, they are empirically separated from each other into independent dimensions of “meaning in life”. Significance focuses on the value of the individual’s life relative to themselves, while mattering involves the value of the individual’s life to the world. This distinction was made clear by Martela and Steger when developing their meaning in life scale (Martela & Steger, 2022).

Meaning in life has taken on a relevant role within philosophy, raising questions about human existence and the reason behind it. This concept, traditionally a cornerstone of philosophical discourse, has increasingly garnered attention within the realm of psychology and mental health. Meaning in life is instrumental in guiding individuals to pursue and accomplish their goals, as well as in providing a framework to comprehend and interpret daily experiences. Scholars widely concur that the quest for meaning enriches the human experience (Krok, 2015), some even proposing that searching for meaning is an innate human drive. This concept, famously advocated by Frankl, emphasizes that humans don't invent meaning; rather, we discover it through exploration. According to him, meaning is omnipresent, implying that humans can find meaning in anything and everything, even in situations that might seem meaningless (Frankl, 1992).

A sense of meaninglessness is often associated with depressive symptoms such as existential concerns and a general lack of fulfillment and engagement in life (Mascaro & Rosen, 2005). Consequently, meaning in life is regarded as a fundamental aspect of human psychology, pivotal for overall well-being. Another study revealed that self-reported health measures had a stronger connection to meaning in life compared to objective health indicators like mortality rates. Although the link between objective indicators and meaning was weaker,

it remained significant. This study is the first to establish a notable association between meaning in life and concrete health measures. It suggests that meaning in life is an important factor related to various health indicators, especially when assessed through self-reports. The researchers theorized this might be because self-reports reflect personal goals, evaluations, and coping strategies (Czekierda et al., 2017).

Purpose of the study

In light of existing studies like the ones mentioned above, there is an emphasis on a further need for empirical studies on the relationships between belief, synchronicity, and meaning in life. Findings from multiple studies suggests a potential interconnectedness among the variables. There is a growing relevance in investigating the impact human experiences and traits have on health and well-being. This research delves into how belief can influence meaning and life and what role synchronicity awareness and meaning detection play in mediating this relationship, with the hypothesis:

H1: There will be a positive association between belief strength and synchronicity awareness.

H2: Individuals with stronger beliefs will demonstrate greater sensitivity to detecting meaning in synchronistic experiences compared to those with weaker beliefs.

H3: Belief will be positively correlated with perceived meaning in life.

H4: Synchronicity awareness will positively predict the ability to detect meaning in synchronistic experiences.

H5: Synchronicity awareness will positively predict overall perceived meaning in life.

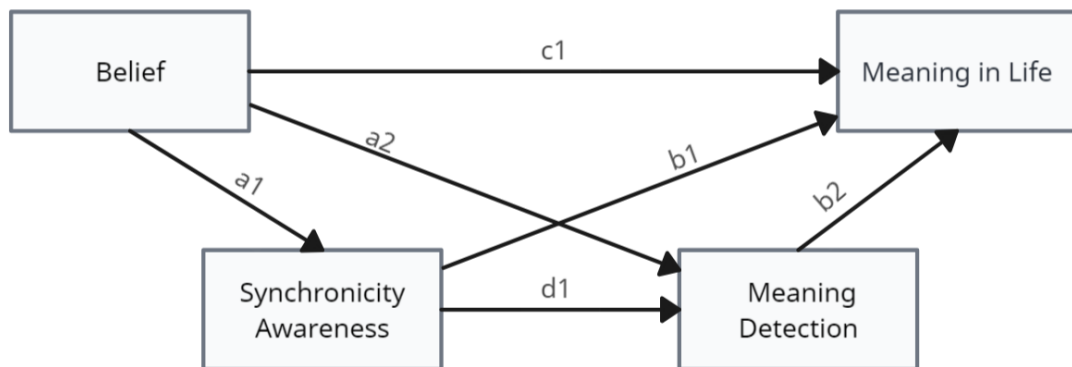
H6: The ability to detect meaning in synchronistic experiences will positively predict overall perceived meaning in life.

H7: Belief will have a serial indirect effect on overall perceived meaning in life through synchronicity awareness and the ability to detect meaning in synchronistic experiences.

The present study aims to further investigate belief and its relationship with meaning in life, looking at synchronicity awareness and meaning detection as possible mediators (Figure 1).

Figure 1

The proposed theoretical model.



Method

Design

This study employs a quantitative research approach, collecting data at a singular point in time, making it a cross-sectional study. Cross-sectional studies are commonly used with surveys to examine the prevalence of certain behaviors, attitudes, or characteristics within a population. However, since they only capture data at one specific moment, they cannot

establish cause-and-effect relationships or determine the temporal sequence of events. It is important to note that the results therefore do not indicate any causal inferences (Kesmodel, 2018).

Participants and procedure

The target population consisted of Norwegian students and adults, between the ages of 20-75. The inclusion criteria were that participants had to be (a) able to speak the Norwegian language (b) be in some sort of employment (c) be at least 18 years of age. The final sample consisted of 204 participants with a mean age of 41.25 (SD = 14.84). The study had a higher proportion of female participants (72.06%) compared to male participants (27.94%), with a skewness value of .99 indicating a right-skewed distribution of gender responses. Participants shared their highest level of education achieved: 0.49% completed primary school, 18.14% completed high school, and 10.78% completed vocational school, while the majority pursued further education, attaining a bachelor's degree (40.69%), a master's degree (26.47%), or a PhD (3.43%).

Data was collected through a dual approach, utilizing both convenient and snowball sampling methods. Initially, convenient sampling tapped into the researchers' social networks and social media, such as Facebook, for participant recruitment. Subsequently, snowball sampling expanded the participant pool by encouraging initial recruits to share the post for the attention of additional participants. Based on previous studies and a calculation done in G-power, a minimum total sample of 134 participants was needed for the survey, however the more participants the better. Prior to the study, participants received detailed information regarding the study's requirements and objectives, alongside a participation disclaimer. The purpose of the data collection was explained to participants, and they were informed of their

rights, including the option to withdraw at any time. Participants were assured of the anonymity and secure storage of their data.

Measuring instruments

The Three-Dimensional Meaning In Life Scale (3DM) provides a multidimensional conceptualization of the aspects within “meaning of life” (Martela & Steger, 2022). The scale examines and measures the three dimensions of meaning in life, coherence, significance, and purpose (Martela & Steger, 2016). The three dimensions consist of coherence, purpose, and significance, signifying a cognitive, motivational, and evaluative component respectively. It was proposed that coherence is defined as the “sense of comprehensibility and one's life making sense,” and purpose is defined as the “sense of core goals, aims and direction in life.” Significance is defined as the “sense of life's inherent value and having a life worth living” (Martela & Steger, 2016). The scale consists of 11 items, four for coherence, four for purpose, and three for significance. The questionnaire employs statements such as “My personal existence is significant” where respondents express their agreement on a Likert-type grading, ranging from 1 to 7. (1) Not true at all, to (7) Very true.

The Synchronicity Awareness and Meaning-Detecting (SAMD) scale is comprised of two subscales, Synchronicity Awareness (SA) and Meaning Detection (MD). The synchronicity awareness scale assessed the awareness of the occurrence of the phenomenon, involving 10 items using a 6-point Likert scale, ranging from 0 = never to 5 = all the time. The respondents received examples of unlikely events that may occur, such as "I was thinking about a person, and he/she contacted me unexpectedly shortly afterward." prior to the questions. The meaning detection subscale further looked into the meaning detected from these synchronistic events. This subscale consisted of 22 items, using a 7-point Likert scale, where 1 was not at all and 7 was to a high degree. Questions such as "I sometimes feel that

the surroundings "send" me signals." were used to allow the respondent to give their subjective perception of synchronistic events (Russo-Netzer & Ickson, 2023).

Single-item measures developed by the researchers were used to measure *religion, spirituality, and a belief in divine intervention*. A Likert-type grading was used, ranging from 1 to 7 where respondents expressed their level of religiosity, spirituality, and belief in the divine. An average of these scores from these scales was made to create a composite score called *belief*, allowing for a summarized representation of the scales. The study included questions regarding the respondent's age, gender, and level of education. No information that can be used to identify individuals was asked for, allowing the survey to remain anonymous.

Statistical analysis

This study used a serial mediation model to depict the relationship between the variables. Descriptive statistics, including means, standard deviations, skewness, and kurtosis, were computed using JASP version 0.18.3 to summarize the characteristics of the study variables (JASPTeam, 2024). Mean scores were calculated for each variable to understand their average value in the dataset, allowing for further exploration within correlation and regression analysis. Correlation coefficients were calculated to elucidate the relationships between variables, with effect sizes interpreted based on cut-off values: $r \geq .10$ (small effect), $r \geq .30$ (medium effect), and $r \geq .50$ (large effect) (Cohen, 1992). The significance level for all statistical tests was set at an alpha level of 0.05 ($p < 0.05$).

To delve deeper into the mechanisms underlying these relationships, we specified a mediation model using the PROCESS macro module in JASP (Hayes, 2022). Specifically, utilizing it for serial mediation and parallel mediation. Using a serial mediation analysis allowed for further research into the indirect and direct effects between the variables. A

mediation analysis was utilized to examine the process through which one variable influence another by identifying and assessing the role of intermediate variables, or mediators, in the relationship between the predictor and the outcome variable. In the context of the study, mediation analysis examines how belief, the predictor, influences meaning in life, the outcome, through the potential mediation of synchronicity awareness and meaning detection. In simpler terms, it helps understand if the impact of belief on meaning in life is partly explained by individuals' awareness of synchronicity and their ability to detect and derive meaning from synchronistic experiences.

Bootstrapping was employed with 10,000 replications to generate 95% confidence intervals. An indirect effect was considered to be present in these intervals if they did not include zero (Hayes, 2022).

Ethics statement

Respondents gave informed consent by accepting the voluntary nature of participation before the online survey commenced and were free to cease participation at any time. Due to online anonymity and a limited set of background information, the researchers couldn't identify who was responding to the survey. The project therefore followed the requirements of the Norwegian Centre for Research Data (NSD).

Results

Descriptive statistics

A Welch's independent samples t-test revealed no significant difference in belief scores between males and females $t(97.946) = 1.162, p = 0.248$, nor in synchronicity awareness $t(111.774) = 1.043, p = 0.299$, meaning detection $t(96.542) = 1.457, p = 0.148$ or meaning in

life $t(109.092) = -0.803, p = 0.424$. Gender differences were therefore not found or investigated further. Belief scores were skewed towards lower values ($M = 2.4, Mdn = 2.0$), indicating low reporting in religion, spirituality, and belief in a higher power.

The internal consistency reliability of the scale was assessed using standardized McDonald's ω and Cronbach's α coefficients, which were obtained through bootstrapping methods with 10,000 resamples. The point estimates and 95% confidence intervals for standardized McDonald's ω and Cronbach's α were calculated. In the methods section, we standardized the variables before conducting the reliability analysis to ensure comparability across items. The point estimate for standardized McDonald's ω was 0.77, with a 95% confidence interval ranging from 0.71 to 0.81. Similarly, the point estimate for standardized Cronbach's α was 0.67, with a 95% confidence interval ranging from 0.59 to 0.74. These results suggest moderate to good internal consistency reliability for the scale.

A mediation model analysis was used to answer the research question and test each of the hypotheses. Table 1 shows Pearson's correlations that were computed to examine the relationships between the variables.

Table 1

Descriptive statistics and correlations for variables concerning Meaning in Life, Synchronicity Awareness, Synchronicity Meaning Detection, and Belief. N = 204

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Meaning	4.87	1.00	-				
2. SyncAware	3.53	0.80	.24***	-			
3. MeanDetec	4.14	1.18	.23***	.55***	-		
4. Belief	2.40	1.24	.06	.30***	.65***	-	

* $p < .05$. ** $p < .01$. *** $p < .001$.

A significant positive correlation was found between synchronicity awareness and meaning, $r = 0.24$, $p < .001$, indicating a moderate positive association. Similarly, meaning detection was positively correlated with meaning, $r = 0.23$, $p < .001$, and synchronicity awareness, $r = 0.55$, $p < .001$, both demonstrating moderate to strong positive relationships. However, the correlation between belief and meaning was not statistically significant, $r = 0.06$, $p = 0.37$.

Direct paths

Based on the path coefficients presented in Table 2, significant relationships were observed among the variables.

Table 2

Direct path summary

Relationship	Estimates:	SE:	z-value:	p-value:	Confidence	
					Interval:	
					Lower	Upper
					Bound	Bound
B – M	-.14	.09	-1.54	.12	-0.30	0.03
SA – M	.15	.08	1.85	.06	-0.02	0.31
MD – M	.24	.10	2.37	.02*	0.04	0.45
B – SA	.30	.07	4.45	<.001*	0.17	0.43
B – MD	.53	.05	10.84	<.001*	0.44	0.61
SA – MD	.40	.05	8.15	<.001*	0.30	0.49

Note. * Significant result. B = Belief, M = Meaning, SA = Synchronicity

Awareness, MD = Meaning Detection; Estimate = β

Meaning detection exhibited a strong positive association with meaning (coefficient = 0.24, $p = 0.02$) which was significant. Additionally, belief significantly predicted synchronicity awareness (coefficient = 0.30, $p < 0.001$) and meaning detection (coefficient = 0.53, $p < 0.001$), indicating a positive relationship between these variables. Furthermore, synchronicity awareness positively predicted meaning detection (coefficient = 0.40, p

<0.001). The relationships were not significant ($p > 0.05$). The path coefficient between belief and meaning was estimated at -0.14 ($p = 0.12$), and synchronicity awareness and meaning path coefficient was estimated at 0.15 ($p = 0.06$).

Indirect effects

Table 3 displays the mediation effects among the variables.

Table 3

Mediation effect summary

Relationship	Estimates:	SE:	z-value:	p-value:	Confidence Interval:	
					Lower Bound	Upper Bound
B – SA – M	.04	.03	1.71	.09	0.00	0.11
B – MD – M	.13	.06	2.31	.02*	0.03	0.24
B – SA – MD - M	.03	.01	2.02	.04*	0.00	0.07

Conclusion: Two mediating effects were found

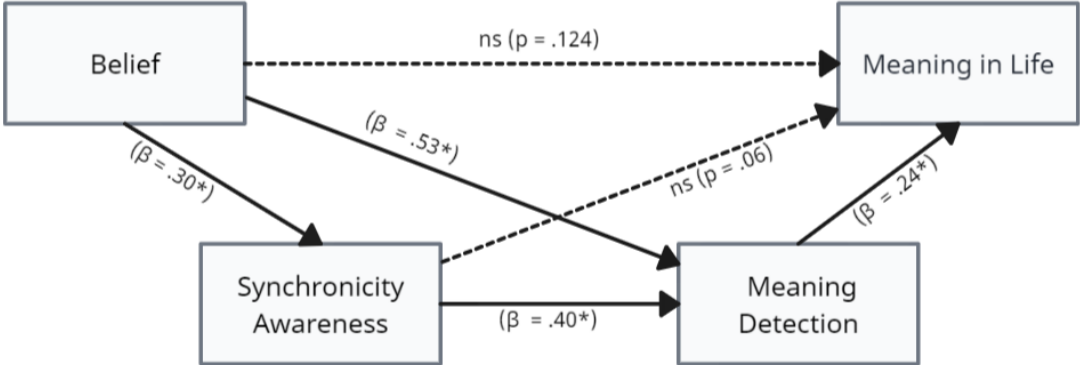
The results indicate significant indirect pathways from belief to meaning through both synchronicity awareness and meaning detection. Specifically, the indirect effect of belief on meaning through synchronicity awareness was estimated at 0.04 , ($p = 0.09$), and through meaning detection was estimated at 0.13 , ($p = 0.02$). Furthermore, the mediation analysis

revealed a significant indirect effect of belief on meaning detection through synchronicity awareness, with an estimate of 0.03, ($p = 0.04$). These findings suggest that belief indirectly influences meaning through synchronicity awareness and synchronicity meaning detection, as well as indirectly influences synchronicity meaning detection through synchronicity awareness.

The total effect of belief on meaning was estimated at 0.06 ($SE = 0.07$, $z = 0.91$, $p = 0.36$), with a 95% confidence interval ranging from -0.04 to 0.19. Additionally, the total indirect effect of belief on meaning was found to be 0.2 ($SE = 0.06$, $z = 3.28$, $p = 0.001$), with a confidence interval from 0.09 to 0.33. These results suggest that while the direct effect of belief on meaning was not statistically significant, other variables mediated a significant indirect effect.

Figure 2

Structural model of path results



Discussion

Interpretation of analysis results

This study investigated the influence of belief on meaning in life and the mediating roles of synchronicity awareness and meaning detection in this relationship. As far as the author is aware, this is the first study that investigates the interrelationships between belief, synchronicity awareness, meaning detection, and meaning in life. While previous research has explored the direct effects of individual variables, such as synchronicity and meaning in life or belief and synchronicity, this study uniquely integrates these factors into a comprehensive model. Instead of looking at these variables in isolation, this study considers how they interact and influence each other within a unified framework. Building upon recent research of Ruzzo-Netzer and Ickeson (2023) on synchronicity awareness and meaning detection, this study introduces belief as a variable into the equation, with synchronicity awareness and meaning detection serving as mediators.

A mediation analysis revealed significant indirect pathways from belief to meaning in life through meaning detection. Furthermore, a serial indirect effect was observed from belief through synchronicity awareness and meaning detection to meaning in life. This may suggest that individuals with stronger beliefs may be more sensitive to synchronistic experiences and better able to detect and derive meaning from them, ultimately contributing to their overall sense of meaning in life. While belief did not directly correlate with meaning in life, it was found that meaning detection mediated between belief and meaning in life. This suggests that belief indirectly influences individuals' sense of meaning through their capacity to perceive and interpret meaningful coincidences. Individuals who can detect meaning in unexpected events and derive sense from them may experience a heightened sense of coherence in their lives, fostering greater meaning in life.

In line with the hypothesis of the study, belief, and subjective experiences have been shown to play a significant role in shaping an individual's perceptions of meaning in life. Recent interest in synchronicity has prompted inquiries into its effects and benefits for humans. Some studies suggest that individuals who are more attuned to synchronistic experiences tend to perceive greater meaning in their lives and are better able to detect and derive meaning from those experiences. The study's findings reveal a positive correlation between synchronicity awareness and meaning detection. The correlation between awareness of synchronistic experiences and deriving meaning from them suggests a connection. However, the study's limitations need careful consideration for interpreting and generalizing the results to broader populations or contexts.

Limitations and recommendations for future research

The study has several limitations that could influence its internal and external validity. First, the sample primarily consisted of the researcher's friends and family, limiting the generalizability of the findings to broader populations. The survey was limited to Norwegian citizens, so the findings can't be applied to wider groups or other countries. Beliefs and ideas about synchronicity might vary across different countries and cultures. Additionally, the study relied on self-report measures, which may be subject to biases and inaccuracies. According to researchers Johansen and Osman, psychologists investigating coincidences and synchronicity commonly believe that the experience of a coincidence is just random chance events with no further meaning behind it. Then these chance occurrences are misinterpreted via irrational cognitive biases, leading to groundless beliefs in the mind that can be harmful (Johansen & Osman, 2015).

Cognitive bias was not accounted for or controlled for in this study, which might impact results. Survey formats, which rely on self-ratings, are susceptible to biases due to the inherent dependence on individuals' self-awareness. This raises concerns regarding the individuals' ability to capture various aspects of themselves accurately. Self-reporting poses challenges related to recall bias, as accurately recalling and reporting how many times you have experienced something can be difficult.

Studies on belief and its relationship with meaning in life have shown a connection between the two (Błażek & Besta, 2012). Contrary to their research, the present analysis shows that belief did not have a significant relationship with meaning in life. A reason behind this could be due to a majority of respondents reporting low levels of belief. This could impact the correlation between belief and meaning in life, as belief is a key factor influencing how individuals perceive meaning. If belief isn't a significant aspect of respondents' lives, it may not strongly influence their overall sense of meaning and purpose. As a result, the correlation between belief and meaning in life may not be statistically significant. Considering this, it's important to interpret the study's results within the context of the sample characteristics. Future research should aim to have a more representative pool of participants, including individuals who score high on the belief scale.

Further studies could utilize experimental longitudinal designs, where one group is exposed to the concept of synchronicity while the other remains unaware, to control for the frequency illusion and investigate the long-term effects of synchronicity awareness interventions. The frequency illusion may cause issues in validity because it can lead individuals to overestimate the significance of coincidental events, thereby causing bias in their interpretations and undermining the accuracy of their perceptions. Employing longitudinal approaches can mitigate concerns arising from day-to-day mood fluctuations and situational contexts encountered during survey administration. Additionally, qualitative

studies could provide deeper insights into individuals' subjective experiences of synchronicity and meaning, offering a richer understanding of these phenomena. Overall, the study lays the groundwork for future research to further explore the complex interplay between belief, synchronicity, and meaning in life.

Understanding how belief influences meaning in life requires considering both personal convictions and external factors like social interactions and cultural norms. However, due to the limitations of this study, there's a risk of false relationships due to various confounding variables. Previous research has highlighted that meaning in life can be influenced by a wide range of factors, including social connections, achievements, goals, meaningful events, and personal beliefs and values (King & Hicks, 2021). While our findings suggest a correlation between belief and meaning in life through meaning detection, it's important to note that this relationship may be influenced by factors associated with religious beliefs, such as social connections, rather than belief itself. Further investigation using mediation analysis could help explore these confounding variables.

Recommendations for practice

The study's findings suggest that a greater sense of synchronicity is associated with a heightened sense of meaning in life, aligning with existing literature that highlights the potential benefits of synchronicity in clinical contexts and its positive correlation with overall well-being. Given the relative unfamiliarity of synchronicity outside of psychology-related circles, practitioners, including life coaches and therapists, could consider introducing the concept to their clients. Therapists can enhance their therapeutic rapport by familiarizing themselves with synchronicity and guiding clients in recognizing meaningful coincidences.

Furthermore, the association between belief, synchronicity awareness, and meaning detection implies that having a belief system may facilitate the perception of synchronicity. Practices rooted in spirituality, such as meditation, gratitude exercises, and mind-body techniques, offer avenues for promoting synchronicity awareness and strengthening one's spiritual connection. In light of these findings, practitioners and clinicians in the field of psychology and mental health can prioritize interventions aimed at enhancing individuals' sense of meaning and purpose. This may involve incorporating meaning-centered therapy approaches, existential psychotherapy techniques, or positive psychology interventions into clinical practice.

Additionally, practitioners should recognize the importance of addressing existential concerns and facilitating existential exploration during therapy sessions, particularly for clients experiencing feelings of meaninglessness or existential distress. Cultivating an attitude of curiosity and receptivity toward clients' narratives of meaningful coincidences can also be beneficial in therapeutic settings. Finally, practitioners should adopt a culturally sensitive approach that respects and integrates clients' spiritual and religious beliefs into the therapeutic process when appropriate. By incorporating these recommendations into clinical practice, specialists can support clients in their journey toward greater meaning, fulfillment, and well-being.

If the author were to do further research in this area, an investigation into whether it's the meaning detection in synchronistic events or the overall capacity to find meaning that influences one's perception of meaning in life would be warranted. Given that synchronicity awareness didn't exhibit a significant correlation with meaning in life, it prompts an inquiry into whether the act of deriving meaning itself plays a pivotal role in fostering a heightened sense of purpose, rather than the synchronistic component alone. This observation is in line

with Steger's delineation of the dual dimensions of meaning in life: the quest for meaning being as crucial as the experience of having a sense of meaning.

Conclusion

Despite the fact that synchronicity remains a relatively obscure phenomenon to the general public, research consistently demonstrates its significant impact on various aspects of our lives, including our perception of life's meaning. This study aimed to investigate the relationship between belief, synchronicity awareness, meaning detection, and overall perceived meaning in life. Through quantitative analysis, it was found that belief significantly predicted synchronicity awareness and meaning detection, highlighting its role in shaping individuals' perceptions of synchronistic experiences. However, belief did not directly predict overall perceived meaning in life. Instead, indirect pathways were identified, suggesting that belief indirectly influences overall meaning through synchronicity awareness and meaning detection.

To conclude, the findings underscore the importance of advancing scholarly inquiry into synchronicity as a phenomenon, suggesting its potential significance in enhancing individuals' perceptions of meaning in life. Additionally, these findings suggest the potential utility of integrating synchronicity into therapeutic contexts, emphasizing the significance of therapists' proficiency and knowledge in managing such occurrences. Further research could explore additional factors that may contribute to the perception of meaning while ensuring a diverse group of participants to delve deeper into this topic.

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