

# Synchronicity: Coincidence Detection and Meaningful Life Events

George Costin, MD; Kristina Dzara, PhD; and David Resch, MD

Early therapeutic use of coincidences is described by Carl Jung, who coined the term ‘synchronicity,’ referring to the low-probability co-occurrence of two different events in a narrow window of time, perceived as striking for the individual experiencing it.<sup>1</sup> It is now accepted that, for coincidences to qualify as a synchronicity, they have to be meaningful, and help one’s individuation.<sup>2</sup>

*George Costin, MD, is Assistant Professor, Department of Behavioral Medicine and Psychiatry, West Virginia University, Morgantown, WV. Kristina Dzara, PhD, is Research Instructor, Department of Psychiatry, Southern Illinois University School of Medicine, Springfield, IL. David Resch, MD is Professor of Medicine/Psychiatry, Department of Medicine/Psychiatry, Southern Illinois University School of Medicine, Springfield, IL.*

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*Address correspondence to: George Costin, MD, 936 Sharpe Hospital Rd., Weston, WV, 26452-8550; email: george.costin@wv.gov.*

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A self-reported coincidence scale (Weird Coincidence Scale, WCS-2; see Table 1, page 574) was recently designed and revised<sup>1</sup> to offer a tool to study coincidences in a general population and to characterize those who may detect coincidences more often.<sup>3</sup> One population in this WCS-2 study included people affiliated with a university; the second population comprised undergraduate students in a psychology class at the same university.

People who are high-frequency coincidence detectors are likely to score high on referential thinking, faith in intuition, vitality, negative affect, and search for meaning scales.<sup>3</sup> Researchers were urged to improve the measurement of self-reported coincidences, since model fit statistics were close to acceptable levels.<sup>3</sup>

The relationship has not been explored between the perceived coincidence experiences and age or stressful life events. Our objectives were to retest the WCS-2 constructs in an academic medical setting and assess how they relate to respondents’ age, direct patient care, and positive or negative emotional events. Assessing these relationships may provide a deeper insight into the experience of coincidences by those working in an academic medical center.

## STUDY CRITERIA

We emailed an invitation to complete a Web-based survey to everyone at Southern Illinois University School of Medicine (SIU-SM) (2,862 people). Respondents were introduced to the idea of synchronicity and were notified that the purpose of the study was to elicit their opinion on their experiences with coincidences. Respondents were informed that the questionnaire would be available for 6 days and would take 5 to 10 minutes to complete. Voluntary, anonymous participation was emphasized.

The survey included a prototype coincidence story as published by Coleman<sup>2</sup> and the WCS-2.<sup>3</sup> The survey consisted of demographic information (age, gender, ethnicity, and religious affiliation) and a question regarding whether they worked in direct patient care. Respondents were also asked about their experiences with perceived coincidences around positive (eg, marriage, birth of a child, promotion, achievement, vacation) and negative life events (eg, injury, illness, death, divorce, financial stress, stress at work, school).<sup>4</sup>

Participants were asked to rate WCS-2 questions such as “I think of calling someone, only to have that per-



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son unexpectedly call me” on a five-point Likert scale from “never” to “very frequently,” and questions such as “I believe that human minds are interconnected” from “strongly disagree” to strongly agree.” The response choices for all variables ranged from 1 to 5.

A total of 286 people responded, a 10% response rate. Sample size calculations found the number of respondents marginally acceptable (90% confidence level; 4.6% margin of error). Post-hoc power analyses indicated significant power (1.00) for correlational analyses (effect size 0.05; alpha error 0.05). All analyses were conducted using Predictive Analytics Software (PASW) 18. Frequencies and descriptive statistics were obtained for all variables. Principal component analysis was used to create the WCS-2 item scales. Relationships between WCS-2 scales and age, direct patient care, positive events, and negative events were assessed using Spearman’s rank correlation coefficients.

## RESULTS

Most respondents ( $n = 198$ ; 72.3%) were female. Ages ranged from 18 to 74 years; the most represented age ranges were 25 to 34 years ( $n = 92$ ; 33.3%) and 45 to 54 years ( $n = 85$ ; 30.8%). Most were white ( $n = 236$ ; 86.4%), with small percentages black, Asian, Hispanic, or other. More than half of respondents were Christian; 39.3% ( $n = 108$ ) Protestant; and 19.3% ( $n = 53$ ) Roman Catholic. Other faiths (eg, Buddhist, Hindu, Jewish, and Muslim), as well as agnostics and atheists, were represented in small numbers. About half ( $n = 131$ ; 47.6%) work primarily in a direct patient-care position.

The means and standard deviations for the WCS-2 and positive and negative association questions are reported in Table 1 (see page 574). The lowest reported WCS-2 mean (2.11) was for the statement: “I experience strong emotions or physical sensations that were simultane-

ously experienced at a distance by someone I love.” The WCS-2 question with the highest mean (3.64) was “I believe that God speaks to us through meaningful coincidences.” Positive and negative association questions had reasonably high means — 3.68 and 3.33, respectively. All variables are normally distributed.<sup>5</sup>

PCA factor analysis was conducted to assess whether this data also factored into three scales, as indicated by prior literature.<sup>1</sup> The WCS-2 variables factored into three scales: interpersonal, agentic, and analysis/interpretation (Table 2, see page 575). One analysis/interpretation item — respondents’ beliefs that coincidences can be explained by laws of probability or chance — did not fit (factor loading  $-.657$ ). It was analyzed as a separate construct, called probability/chance. The means and standard deviations for the interpersonal and agentic scales were similar to prior published results. The analysis/interpretation scores were considerably higher than prior literature has reported.<sup>3</sup> The reliability of our scales was high, with Chronbach’s alphas of 0.801 for the interpersonal scale; 0.827 for the agentic scale; and 0.870 for the analysis/interpretation scale.

There was only one significant relationship between age or direct patient care and the WCS-2 scales. Direct patient care was negatively related to the interpersonal scale (Spearman’s rank correlation coefficient =  $-0.130$ ,  $P = .035$ ). However, age and probability/chance were negatively related (Spearman’s rank correlation coefficient =  $-0.227$ ,  $P < .001$ ), while direct patient care and probability/chance were positively related (Spearman’s rank correlation coefficient =  $0.129$ ,  $P = .044$ ).

All correlations between positive or negative life events, the three WCS-2 scales, and probability/chance were significant, ranging from 0.362 to 0.471 for positive events and  $-0.174$  to 0.303 for negative events ( $P < .01$ ). Additional t-tests indicated that those who associate coincidences with positive and/or negative life events differ on all three WCS-2 scales (higher

TABLE 1.

**Means and Standard Deviations of WCS-2 and Positive and Negative Association Questions**

Questions	Min.	Max.	Mean	SD	N
<b>Interpersonal Items</b>					
I think of calling someone, only to have that person call me.	1	5	2.96	0.827	284
When my phone rings, I know who's calling without checking.	1	5	2.81	1.049	281
I think of a question only to have it answered by external media before I ask it.	1	5	2.29	0.915	283
I think of an idea and hear or see it on radio, TV, or Internet.	1	5	2.36	0.898	282
I think of someone and that person drops by my house or office.	1	5	2.48	0.916	280
I run into a friend in an out-of-the-way place.	1	5	2.57	0.802	283
I experience strong emotions or physical sensations that were simultaneously experienced at a distance by someone I love.	1	5	2.11	1.048	281
<b>Agentic Items</b>					
I need something and the need is met without my having to do anything.	1	5	2.39	0.988	283
I advance in my work/career/education through being at the right place at the right time.	1	5	2.67	1.036	283
I am introduced to people who unexpectedly further my work/career/education.	1	5	2.54	0.981	281
Meaningful coincidence helps determine my educational path.	1	5	2.30	1.084	281
After experiencing meaningful coincidence, I analyze the meaning of my experience.	1	5	3.02	1.206	282
<b>Analysis/Interpretation Items</b>					
I feel that meaningful coincidences point to a connection between my internal and external worlds.	1	5	3.41	1.077	278
I believe that human minds are interconnected.	1	5	3.17	1.068	278
I believe that fate works through meaningful coincidences.	1	5	3.43	1.097	277
I believe God speaks to us through meaningful coincidences.	1	5	3.64	1.356	277
Meaningful coincidences help me grow spiritually.	1	5	3.54	1.277	276
<b>Probability/Chance Item</b>					
I believe coincidences can be explained by the laws or probability of chance.	1	5	3.17	1.065	277
<b>Positive and Negative Association Items</b>					
Coincidences I have experienced are associated with positive events (eg, marriage, birth of a child, promotion, achievement, vacation).	1	5	3.68	0.763	275
Coincidences I have experienced are associated with negative events (eg, injury, illness, death, divorce, financial stress, stress at work).	1	5	3.33	0.919	275

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means) and the probability/chance variable (lower mean), compared with those who don't ( $P = .001$ ) (see Table 3, page 575).

## DISCUSSION

The purpose of this study was to describe the coincidence experiences in a population associated with a medical school. We also wished to assess the possible relationship between coincidences and age, direct patient care, and positive and negative life events. The study was also useful in assessing the psychometric properties of WCS-2.

Coincidence experiences are common among those working at the SIU-SM. Overall, the means for the interpersonal and agentic scales are comparable to previously published results.<sup>3</sup> Our analysis/interpretation scale — which differed from the original WCS-2 scale in that the probability/chance variable did not load in the

factor — was significantly higher than what Coleman and Beitman reported.<sup>3</sup> This may be related to nuances among the respondents, potentially due to their work in the health care field. Our three scales were highly reliable, with Chronbach's alphas of 0.801 for the interpersonal scale, 0.827 for the agentic scale, and 0.870 for the analysis/interpretation scale. These alphas are all stronger than previously reported,<sup>3</sup> potentially suggesting that the WCS-2 is more reliable among those working at a medical school. Chronbach's alpha for the analysis/interpretation scale reduces to 0.677 when the probability/chance variable is included.

It was suggested previously that age might influence coincidence detection.<sup>3</sup> The hypothesized explanation is that the search for meaning, which is associated with coincidence experiences, is more likely to characterize elderly people.<sup>3</sup> Our re-

spondents were mostly aged 25 to 64 years, so it is possible that there were not enough older respondents to find a relationship. Only one relationship was found between age and any of the coincidence variables. Age and probability/chance were negatively related; as age increases, agreement with the statement, "I believe coincidences can be explained by the laws or probability of chance" tends to decrease. Considering this was the only finding regarding age and coincidence detection, replication studies with larger, more representative samples are needed to clarify the true relationship.

We also assumed that working in a direct patient-care position might subject respondents to higher-intensity emotional experiences compared with people working in nonclinical settings. Direct patient care was related negatively to the interpersonal scale, suggesting that direct care

workers tend to have fewer coincidences involving relationships with other people or coincidental experiences involving media. Direct patient care was also related positively to the probability/chance variable. Overall, these findings may suggest that the unique experience of working in direct patient care might encourage these individuals to have a more cynical view of life and human relationships.

Prior work has indicated that people are more likely to experience coincidences at times of significant emotional involvement.<sup>3,6</sup> Certain characteristics are associated with high incidence of coincidence, including vitality and negative affect, which may influence the perceived emotional meaning of an event.<sup>3</sup> We explored the relationship between positive and negative life events, such as marriages, births, deaths, or divorces, which are top stressful life events.<sup>4</sup> We found small to moderate, but significant, relationships between these life events and coincidence detection. These findings align with previously published results. Relationships were stronger in times of heightened emotional experiences associated with positive life events, suggestive that people find more meaning during positive, rather than negative, times in their lives.

According to Coleman and Beitman, one of the limitations of coincidence research is the WCS-2 scale itself.<sup>3</sup> Our analysis indicates that the three WCS-2 subscales stand as different constructs with one outlier: the belief that coincidences can be explained by laws of probability or chance. For that reason, it was removed from the analysis/interpretation scale and analyzed separately. People who experience coincidences tend not to believe they are the result of chance, which aligns with the “search for meaning” hypothesis.<sup>3</sup>

This project has a number of limitations. Although the number of respondents was acceptable for analysis, the total response rate was low. The responses may overrepresent those who were interested in the topic of coincidences. The respondents

TABLE 2.

**Means, Standard Deviations, and Chronbach's Alphas of WCS-2 Scales**

WCS-2 Scale	Mean	Std. Dev.	Chronbach's Alpha
Interpersonal	2.52	0.628	0.801
Agentic	2.59	0.816	0.827
Analysis/Interpretation	3.44	0.958	0.870

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TABLE 3.

**Spearman's Rank Correlation Coefficients Between the WCS-2 Scales and Probability/Chance, and Positive and Negative Life Events**

WCS-2 Scale	Positive Life Events	Negative Life Events
Interpersonal	0.362 (.000)	0.274 (.000)
Agentic	0.381 (.000)	0.201 (.001)
Analysis/Interpretation	0.475 (.000)	0.303 (.000)
Probability/Chance	-0.282 (.000)	-0.174 (.004)

*Note: Data are displayed as Spearman r<sub>yx</sub> (sign.).*  
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also tended to be female and white, limiting the generalizability of our results. Further, it would have been helpful to know whether those reporting direct patient care were doctors, nurses, other allied health professionals, or clinic receptionists.

### CONCLUSION

Our findings indicate that SIU-SM affiliates commonly perceive coincidences. The WCS-2 items factored into three scales, with one outlier. To improve inter-item reliability for future researchers, we suggest that the probability/chance variable be analyzed separately. There is a limited relationship between coincidence detection and both age and direct patient care. However, the WCS-2 scales were related to both positive and negative life events.

Coincidence detection around positive and/or negative life events suggests an association with emotional states and a search for meaning that aligns with previously published findings. Future researchers may wish to assess the relationship between religion and coincidence detection. Previously, an overlap between spirituality

and coincidences was described, with those who report more coincidences also tending to report more spiritual experiences.<sup>2</sup>

We also suggest exploring the influence of high-intensity clinical settings, such as the ED, versus milder health care settings, such as outpatient clinics. Researchers should strive to collect data that would allow multivariate models, which could control for a number of variables pertinent to daily life and perceived coincidences.

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