

# MYSTERY IN RELATION TO MEANINGFULNESS

An Undergraduate Research Scholars Thesis

by

CANDILARIA GONZALEZ

Submitted to the LAUNCH: Undergraduate Research office at  
Texas A&M University  
in partial fulfillment of requirements for the designation as an

UNDERGRADUATE RESEARCH SCHOLAR

Approved by  
Faculty Research Advisor:

Dr. Joshua Hicks

May 2023

Major:

Psychology

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TAMU IRB: IRB2022-1382M Approval Date: 11/14/2022 Expiration Date: 11/14/2025

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# ABSTRACT

## Mystery In Relation to Meaningfulness

Candilaria Gonzalez  
Department of Psychological and Brain Sciences  
Texas A&M University

Faculty Research Advisor: Dr. Joshua Hicks  
Department of Psychological and Brain Sciences  
Texas A&M University

Something that is difficult to understand or explain can be described as a mystery.

Mysteries excite curiosity, wonder and may even lead individuals to feel a sense of awe. This can be both good and bad but depending on how one interprets the experience, it can lead to a variety of emotions, one of which can be meaningfulness. By experiencing meaningfulness, it means one engages in the qualities of being useful, serious, and important. There are many ways one may gain a sense of meaning; it varies by the individual as some find it through their culture while others find it through their environment. How often someone can find meaning can depend on their current level of meaningfulness; essentially if someone is higher in meaning, they will not find it in everything whereas someone lower could experience transcendence just by looking at a sunset. Being in a state of transcendence is defined by overcoming the limitation of physical existence and being independent. Another way to describe a meaningful life is to be engaged in the world around them, feeling a sense of purpose, and being filled with passion. With new ways to find meaning it can lead individuals to find their sense of purpose and potentially lower rates of depression. Our research focuses on determining whether mystery influences feelings of

meaningfulness. We assessed this by giving participants a survey consisting of scales rating their levels of engagement, awe, wonder, mystery and meaningfulness. We aim to find a difference in positive and negative ratings in relation to meaningfulness. We did not find our mystery-induced images lead participants to engage in meaning, however we found an indirect relationship between the two.

## **DEDICATION**

*To my friends, families, instructors, and peers who supported me throughout the research process, I would not have been able to complete this without them.*

## **ACKNOWLEDGEMENTS**

### **Contributors**

I would like to thank my faculty advisor, Dr. Joshua Hicks for his patience and assistance with me throughout this process.

Thanks also go to my friends and colleagues for the constant support and encouragement to do more.

Lastly, thanks go to the department faculty and staff for making my time at Texas A&M University truly a great experience.

The data analyzed for *Mystery in Relation to Meaning* were provided by Lydia Needy. The analyses depicted in *Mystery in Relation to Meaning* were conducted in part by Existential Psychology lab and these data are unpublished.

All other work conducted for the thesis was completed by the student independently.

### **Funding Sources**

This research was funded internally, therefore there are no outside financial contributors.

# 1. INTRODUCTION

## 1.1 Meaningfulness

Meaningfulness in life has an exacerbating effect on mental distress (Schnell & Krampe, 2022). Researchers have found that meaningfulness is a significant motivational component in order to live a life that leads a person to find a sense of living within their surrounding environment (Bergman, Malm, Ljungquist, Bertero, & Karlsson, 2012). Meaning is experienced when individuals can connect the values in their life to their surroundings in ways that make sense to them.

With that being said, coherence is the most important facet when it comes to experiencing meaning in life; a sense of coherence “integrates meaningfulness, comprehensibility and the manageability of a situation” allowing individuals to have a sense of control in their life (Dziedzic & Hammond, 2010). With a higher level of comprehensibility, one is able to make some sense and meaning from a certain experience, thus leading the individual to have a higher likelihood of handling tough situations (Dziedzic & Hammond, 2010). Coherence is also considered to be a personality trait that appears to be a predictor of behavior that influences both mental and physical outcomes, thus giving it much reason to be explored more (Dziedzic & Hammond, 2010). While coherence is typically the focus of attention when it comes to research, we want to further this discussion by exploring new and different ways people may experience this feeling. We want to assess whether or not mysterious experiences can affect this, and if it leads one to feel a deeper sense of meaning within themselves.

For something to be in ways meaningful, it should have personal relevance; someone needs to have some sort of interest in a said topic in order to have any sense of meaning.



Meaningfulness comes from feelings of coherence, purpose, and mattering. From this feeling individuals may experience experiential appreciation in which they begin to appreciating the “intrinsic beauty of the moment” (Kim, 2022). Experiential appreciation serves as a “fundamental antecedent of meaning of life” that comes from the appreciation of one’s life experiences and can even be from appreciating art and nature (Kim, 2022). Nature offers natural beauty in that it gives an intrinsic value to individuals rather than any external value. It is this intrinsic value that gives each moment the potential to elicit meaning; consequently, meaning in life comes from “what we give to life in terms of creative works and what we take from the world [as far as] our [own personal] values” (Kim, 2022). Experiencing intrinsic value means to engage in activities that are inherently rewarding and give happiness within, whereas extrinsic value is a direct result of receiving a reward. Examples of intrinsic values may be creativity, it is something that has value “in itself or in its own right” (Zimmerman & Bradley, 2019). Intrinsic value also strongly correlates to moral virtue and vice, thus eliciting more thought in those actions (Zimmerman & Bradley, 2019). Extrinsic value can be physical rewards that one may receive such as money, food, or clothes. To have a stronger sense of meaning and experiential appreciation means to have connections; thus, by connecting the present moment to the value it offers one may experience a high sense of meaning in their life at that moment.

We are able to define coherence as something that represents the way individuals feel in various aspects of their lives and how well they can fit in with others in all other areas. We define purpose as the extent in which humans find their lives to be driven with a clear sense of direction and are consistently motivated with goals in their life. Mattering is defined by the amount an individual feels their personal self has some value in the world, and how much of an impact they have on those around them. These three concepts come together to produce the

feeling of meaningfulness. Researchers in the field of existential psychology attempt to find ways to obtain that feeling.

Many studies have been done on researching factors in life that add and affect the feeling of meaningfulness; this research aims to do that as well. This research is attempting to find ways people can find and experience a sense of experiential appreciation all throughout their daily lives. If an individual can find a sense of appreciation in every aspect in life, they can begin to view their days differently and hopefully have lasting positive emotions. These feelings do not necessarily leave lasting effects, in fact it may only be felt in a matter of a few seconds. Experiences like this can be as simple as looking at the stars at night, but it may also be the case that it is a challenge for some to achieve. For these reasons, research on this topic is needed. Not everyone may find happiness, meaning, and mattering in the same ways, some may need a more abstract way of thinking in order to achieve that same feeling others have.

Finding new ways to experience experientialism is crucial in society today as the rates of depression and suicide rates continue to increase. While the current rate is lower than the peak experienced in 2018, there is still a continuous gradual rise of suicidal rates. According to CDC, suicide rates have had a 0.5% increase from 2020 to 2021. It may also be important to note there was a larger increase amongst male suicide rates in comparison to females with an 8% increase. The age range for these rates were from 15-24, although the age ranges from 25-44 and 65-74 also experienced an increase. With that being said, it is imperative that we find new ways to increase positive mental health outcomes, things that can allow individuals to experience stronger meaning within themselves. We may find those values we yearn for to feel a sense of meaning come from our own creative, attitudinal and experiential values we encounter on our day to day lives. This feeling can be felt through various acts, but it may also only be felt through

very personal experiences that is subjective to everyone. This is a topic that needs more attention, as it continuously goes unacknowledged. There is an ample amount of research that has been conducted to have a focus on some actions that can lead to brief happiness, such as doing charity work, community service and so on. It would be beneficial to shift the focus to pertain more to one's personal experiences and find unique ways people obtain meaningfulness.

### *1.1.1 Meaning in Life Experiences*

By exploring the topic of meaningfulness, it is important to define what meaningfulness really is. Meaningfulness is the quality of being useful, serious or important, however, this may present to be different in different people's lives; after all no two humans are exactly alike. We find meaning in different areas of our lives, it is typically based on what brings us joy and we all find joy in different ways, so it is important to keep that in mind. Meaning in life is a prosocial behavior that affects well-being (Martela, 2017). We as humans are not "born" happy, but rather we learn to be happy from various experiences we gain throughout our lives. We adjust our surroundings in ways we feel may best benefit ourselves in order to obtain true happiness. This can be done by changing certain areas of our life to best fit the lifestyle we want. Ways to do this may come from our previous attitude and perspectives on life (Fowler, 2009). This can typically be changed by various experiences in life. Areas pertaining to our social group at school or parents at home are huge factors that play into an individual's personal experience. Finding this feeling is very subjective to each individual as we each have our own limitations and may be more sensitive to certain characteristics of our society and environment.

There are many ways one may obtain happiness, one of which may be exploring new things in various aspects of life. If one can evoke more meaning with events that are unplanned it may be beneficial to be involved in more ambiguous events rather than only participating in

events that are planned. This is a mindset that can develop into a huge part of living one's life. If a person allows themselves to explore mystery more often, they may find new interests and potentially find more happiness within those newfound hobbies/interests. This feeling may even come from a negatively viewed consequence. For example, having a child at a young age is typically looked down upon and usually evokes negative reactions from those around; however, becoming a parent can turn someone's life around and give them a sense of purpose of life, thus giving them a direction in life. No one knows what to expect when it comes to having children, it is a very different experience for everyone, therefore it is a scary, mysterious event in people's lives. This is an example of a mystery that may lead to a higher sense of purpose and mattering in life, therefore causing a deeper sense of meaningfulness.

## **1.2 Exploring Mystery**

The idea of a potential mysterious event leading to euphoric feelings can be evolutionary in the field of existential psychology (Charleory, 2021). This is an unexplored topic in the existential psychology field in comparison to other topics previously explored. By finding new influences that can factor into creating meaningfulness, we may be able to recommend new ideas lowering rates of depression.

It has been discovered that mystery can be a motivator to student achievement. In previous studies researchers used a mystery motivator to measure whether homework completion would increase in accuracy as well as completion. It was thought, if students were told about a surprise, they would be motivated to finish their work to find out the surprise. This explores the relationship between mystery and happiness. Receiving extrinsic prizes elicit motivation amongst students to do their work as they are happy to earn something of value to them. What Szolosi, Watson and Ruddell found was that, when students were told they would receive a prize

they knew very little about, students had a greater interest in finding out what the prize could be, thus evoking meaning. The physical reward is what causing students to engage in meaning in that moment. This study could revolutionize study habits and how classrooms are designed as this is a crucial part that plays in students' learning habits. According to Ennis, a teacher's enthusiasm level greatly affects the students' own interest and engagement (Ennis, 2018).

While there has not been much research done on how mystery relates to meaningfulness, there has been research done on how mystery affects attention. Researcher, Stephan Kaplan, found humans "prefer [to be surrounded in] environments that [would] facilitate understanding and involvement" (Szolosi, Watson, & Ruddell, 2014). The only issue with always knowing what to expect from events, is that this creates boredom and may eventually lead to a decrease in motivation. We aim to find things that create the opposite effect.

With mystery events individuals are inclined to engage more and sustain interest with consistent involvement in daily activities. Ultimately this leads to a constant feeling of excitement and satisfaction from discovering something new and applying it to other areas in life, according to Kaplan (Kaplan, S & Kaplan, R., 1982). Kaplan found that too much engagement may lead to feelings of anxiety or frustration, thus emphasizing the importance of finding a middle ground in which individuals do not lose motivation and keep interest, while not being so involved that they become consumed with frustration (Szolosi, Watson, & Ruddell, 2014). This research brought up important findings that support the urge to further develop research on mystery as there are many potential benefits from this topic. These benefits could include one's attention span. It is becoming the case that teens are losing interest in multiple school topics, consequently giving them a reason to skip class and lose out on their education. With this research it is important to find ways to keep engagement throughout activities in

school, hobbies, and passions, as these are ways most find meaning. This study also found our fascination comes from cognitive contents and processes that we perceive to produce great value, danger or significance. Relating this back to my current research, it is clear that mystery affects an individual's life on the daily in ways we may not necessarily notice. This research shows how it affects attention, and we intend to see what else mystery can affect.

### **1.3 Awe**

Awe is another term used to describe a state of transcendence that “embraces life’s paradox” and can be described as “angelic” (Schneider, 2005). This is a feeling that can be described as a euphoric feeling because it allows us to feel at peace beyond our physical body. Many individuals have experienced this and have shared their personal stories of transcendence that had them feel an “out of body experience”. These experiences may alter their outlook on life in a positive way that can enhance mindsets. It may even encourage individuals to engage in activities in which they experience more complex emotions.

Awe in life can also enhance an individual's spirituality and sense of self. Many individuals activate “asocial stimuli” as a natural response to things such as “natural wonders, panoramic views and beautiful art” (Piff, Dietze, Feinberg, Stancato & Keltner, 2015). This brings upon a feeling to individuals that allows them to feel like they are becoming one with the community, culture, or the nature, thus producing a euphoric feeling giving them a sense of meaning in that exact moment. Research by Piff, Dietze, Feinberg, Stancato & Keltner has shown that by experiencing a sense of awe, individuals were able to think back on their lives and find they cared less about a day to day experience and found they focused on the overarching feeling of meaning (Piff, Dietze, Feinberg, Stancato & Keltner, 2015). Further research has

indicated awe alters the self concept and can even lead to prosocial behavior, though there has not been significant evidence to prove that this is the case.

Awe is a feeling we should further explore as it can be applicable in different areas of life such as implementing an “awe-based democracy, awe-based work, and an awe-based education” (Schneider, 2005). These would be beneficial to our society as they would help the young while in school while also promoting a better work environment. An awe-based education implies students would engage in a curriculum that focuses on culture and relating it to their own personal lives. Teaching styles like this can allow students to become more involved in their own studies, consequently causing more motivation to complete their work for an intrinsic value rather than extrinsic values. Awe-based work allows employers to take time weekly to focus on their mental and physical well-being by having an hour off a week. While this may not come off as a huge change, this is a step in the right direction, as this allows employers to feel heard and acknowledged. This may promote the work environment for everyone to leave a lasting positive effect. Lastly, awe-based democracy is connecting an experiential asset to political bodies and ethic panels. This essentially boils down to making the processes less conventional, which could be a great new approach to politics. These are a few applications we can implement into everyday life and evolve society to become more accepting of mental health issues while also allowing people to connect with themselves leading to higher motivation.

Awe is related to meaning in life in a way that by engaging with this unique feeling more, individuals may have enhanced self values, an increase in empathy and an increase in prosocial values. Prosocial behavior may allow social networks to strengthen between each other, which in turn allows to for deeper connections to be made, thus evoking a higher sense of meaning (Piff,

Dietze, Feinberg, Stancato & Keltner, 2015). Awe creates memories that individuals learn to cherish for themselves, giving them happiness on their experiences.

#### **1.4 Wonder and Meaning**

Wonder may “inspire a search for explanations and understanding” and give us a push to want more (Schinkel, 2018). Throughout life there are many adventures we cross that arise curiosity and it is because of wonder we search for more. This feeling is what brings us to explore different topics, however it is also the “first movement [that] is against meaning” indicating wonder takes the meaning out of things we would normally inhabit (Schinkel, 2018). Normally this is not the case, wonder can be described as a longing for meaning, the trait that drives us to dig deeper.

Within wonder, there is an umbrella of different forms of wonder such as contemplative, aporetic, admiring and affirmative. Contemplative wonder describes mystery, the mystery of existence. From this, wonder stems another meaning, admiration wonder which is when the wonder develops into admiration and/or reverence. This is a tricky scenario as it may also lead into negative feelings towards the topic or cause feelings that draw them away. Wonder is a combination of fear and admiration, along with humility, together creating perplexity. Aporitic wonder admires wonder and courageous deeds, allowing for the creation of curiosity. Affirmative wonder allows for a sense of affirmation of reality while still allowing room for contemplation about a perception of something. Although there are arguments that wonder can lead to negativity, it is also argued to awaken passion for truth, this is what we want to focus on. We care to explore that side of wonder, if it can be proven to awaken passion, we believe this is what drives people to find more meaning in their life. With wonder comes curiosity, thus leading to passion and determination.



## **1.5 Further Exploring this topic**

Finding new ways for one to engage in a more meaningful life has the potential to decrease mental illness rates all around and can even provide new therapeutic options that people may choose to live by. Assuming mysterious experience can cause an increase in meaningfulness in one's life it may allow room for more meaning, it can also encourage new mentalities, and even motivate people to go after things they fear the outcome of. This could be an encouraging factor for some that leads them to take the next big step in life, and it can be the driving point for one to live by. Society is currently on a downhill slide as it is only growing in depression and mental illness rates across the world, with this it is imperative we find new ways to find a sense of meaning and purpose in life. According to Richter, Walll, Bbruen, and Whittington, evidence had shown a significant increase on the prevalence in adult mental health over time starting from the 1970's (Richter, Walll, Bbruen, & Whittington, 2019). There are many routes one may take, whether it that may be going on a weeklong adventure in the mountains, or even something as simple as taking a long walk by the beach. It may be good to know that by exploring things in life that may present as scary can produce higher levels of happiness.

This thesis aims to further explore this topic and strives to find a relationship between mystery with meaningfulness. We believe when there are higher levels of ambiguity one can experience deeper connections with the situation as they care more for the situation.

## 2. METHODS

### 2.1 Participants

Our study was done by giving participants an untimed survey in which they would receive class credit for, thus making this a convenience sample. The survey was expected to take an estimated time of at least 30 minutes as it required a writing portion from the participants for several images along with ratings to each image. There were various scales we implemented in order to rate different feelings participants engaged in while completing the survey. Scales such as awe, curiosity, wonder, positive and negative emotions, level of meaning felt, and the level of which they would want someone present with them, were all included. It is important to note this was a convenience sample and participants were inclined to participate in order to gain something out of it. We gave this survey to anyone who signed up for it, all of which were Texas A&M students and were mostly a first-year psychology major. For these reasons, our results are not generalizable to the overall public.

We received a total of 136 responses; however, several responses were removed for several reasons. Some responses were missing more than 50% of the data. 12 were removed for invalid data inputted, and 1 was removed for not responding to any written prompts. After removing these invalid responses, we had a total of 122 responses to analyze.

Our participant sample consisted of 52 males, 68 females and 2 who identified as either non-binary or genderfluid. They ranged from the age of 17 to 23, with a majority being 18, followed by 19. Most participants did not identify as Hispanic/Latino ethnic background, but rather a majority identified as white/Caucasian.

The survey took participants a range of 3.32 minutes to 146.23 hours, with an average time of 19.66 minutes. The age range of our sample was 17-23-year-olds.

## **2.2 Methods**

We found an overlap between a few of the variables as they all yielded similar results and in order to address this issue in a way that would allow us to keep the data and use it to support, we made a composite variable we labeled as total wonder. A total of three variables were combined due to a high internal consistency rate between awe, curiosity, and wonder. We decided that by combining these variables we would better assess our results in order to compare the feelings of mystery and meaning.

## **2.3 Procedure**

In order to address this research question, we conducted an experiment that required participants to view images that we feel was rated either high or low in mystery. They were then asked to rate each image on how much they agree with a given statement that is associated with a specific experience. Participants were also asked to report how much they can see themselves in that image, and whether they saw themselves alone in that space or accompanied by other people. The survey consisted of images that depicted nature with either a clear skyline or a cloudy, dark image of the forest. This was intended to give ambiguity of what lies in the dark, cloudy forest. This survey also included various questions pertaining to participants' demographic background, questions that aim to gauge the level of mystery one feels from the images as well as their level of engagement with the survey. We also included scales that would assess the amount of awe, wonder, meaning, positive and negative emotions, and curiosity participants feel throughout the survey. Overall, the survey will consist of 6 images, 3 of a dark

forest filled with trees, and 3 images of a park/nature that is an open field. This aimed to evoke no curiosity, nor any emotion.

### 3. RESULTS

Paired samples *t*-tests were used to determine if there were significant differences in ratings of meaning between the mysterious and non-mysterious conditions. Our analysis did not find a significant difference in meaning between the two conditions, indicating that our hypothesis was not supported ( $p = 0.196$ ). While this is not what we expected there are results that show there is a relationship between the two variables. The mystery images, specifically images one and three were rated high in meaning whereas the second image had a particularly low rating. To our surprise, the second nonmystery image had a usually higher rating in meaning in comparison to all our other images. The second image consisted of a clear hilled park, with a sunset. We believe the sunset is what lead participants to find some meaning behind the image. We attempted to evoke a neutral feeling and no emotion from this image, however after getting the results we see we failed to recognize the sunset as a positive factor as this elicits positive emotions to the viewer.

Since we combined a few variables, we were able to produce better results that supported our hypothesis, however it was still not at a significant level that we were hoping for. It is noted that these variables, awe, curiosity, and wonder should continue to be grouped together in the future to avoid overlapping of variables.

There are a couple of reasons as to why we may not have gotten the results we wanted. Reasons connected to different emotions experienced greatly skewed the desired results. The wrong emotions were targeted from this survey; however, the yielded results can still support our original hypothesis, just not as strongly as we wished. We found higher ratings of awe, curiosity, and wonder from participants and we can relate this back to meaningfulness as these are key

assets to an individual experiencing meaningfulness. We found the higher rating in awe a participant had rated the more positive emotions they would report. With this we were able to make the connection that the higher awe one felt had led to more positive, happy feelings experienced. The same can be said for wonder and curiosity. Therefore, our hypothesis was not supported with significant evidence, it was however proof of an indirect relationship between mystery and meaning. By looking at the mediation analysis (table 1) we can see the significant indirect effect ( $p < .001$ ) between our independent (mystery) and dependent (meaning) variables. By analyzing the data further, we can see that there is a significant effect of the level of which participants felt an image to be mysterious to the amount of overall wonder felt ( $p < .001$ ). This significance goes both ways so the more one feels wonder the higher mystery felt by looking at the images, which we can see on table 2.

Repeated measure t-tests revealed that our hypothesis that mystery would relate to meaning was not supported. However, we found that the mystery images were rated higher in mystery, the experience of wonder, but significantly lower in positive emotions and higher in negative emotions in comparison to the non-mystery images. Exploratory mediation analyses revealed that although mystery ratings of the mysterious places were not directly associated with meaning, it was however associated with increased feelings of wonder, which in turn was associated with higher levels of meaning.

Table 1: *Mediation Analysis of Variables*

Effect	Estimate	SE	Z	p
Indirect	1.292	0.195	6.63	< .001
Direct	-0.275	0.212	-1.29	0.196
Total	1.018	0.214	4.77	< .001

Table 2: Path Estimates of Variables

		Estimate	SE	Z	p
Mystery Rating of Mystery Images →	Total Wonder Mystery	2.005	0.2153	9.31	< .001
Total Wonder Mystery →	Mystery Meaning Rating	0.645	0.0683	9.44	< .001
Mystery Rating of Mystery Images →	Mystery Meaning Rating	-0.275	0.2124	-1.29	0.196

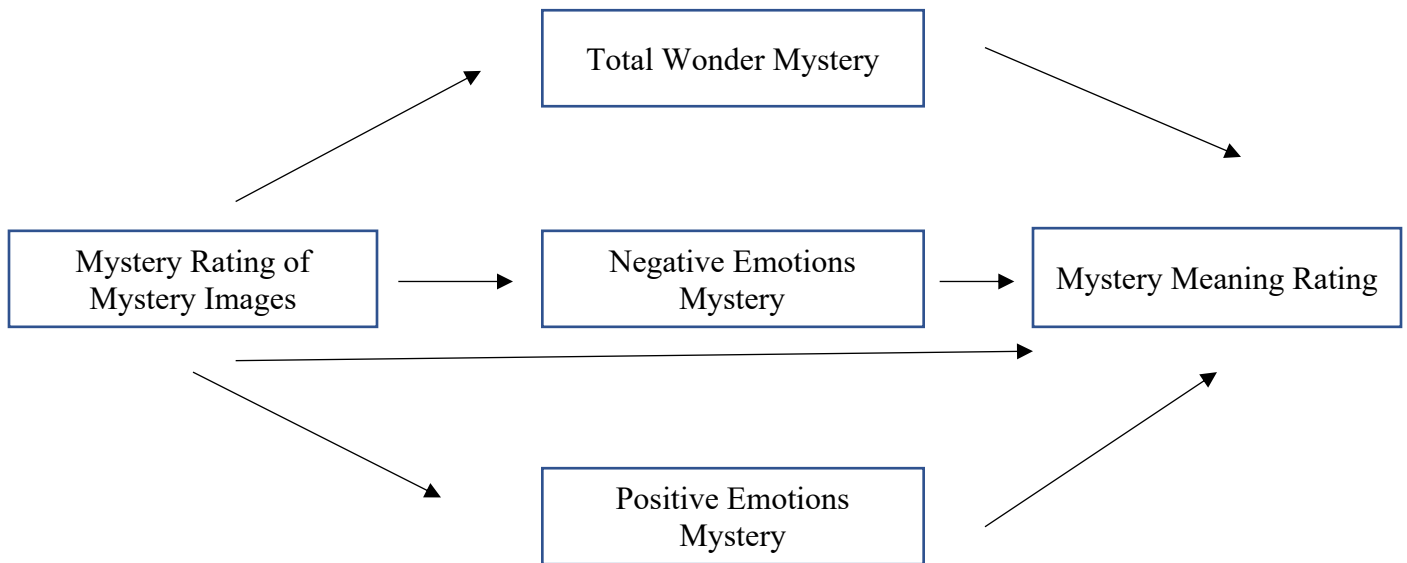


Figure 1: Path model diagram.

Figure 1 shows a path model diagram of the flow of scales we addressed in this study and shows what affected what. Reading the figure left to right, this path model diagram depicts the directions of the casual relationship between our variables; the arrows indicate the direction of

the relationships. With this figure, we can see the mystery rating of each mystery image had a casual relationship between mutliple varaibles such as total wonder, negative emotions and even positve emtions. Positive & negative emotions, as well as total wonder affect the rating of meaning felt with the mysterious images. This diagram also depicts a relationship between the mystery rating of images to the level of meaning felt.



## **4. DISCUSSION**

### **4.1 Conclusion**

While our original hypothesis did not yield results we wanted, we do however, believe there to be indirect effects. We find wonder to be a huge contributing factor alongside awe and curiosity. These are three essential roles in creating meaningfulness, therefore we find it to be an indirect effect on participants' emotions. The images elicited high feelings of awe and wonder which are variables that are experienced in transcendence. Exploring the potential correlation between mystery to awe and wonder could be useful to help us understand what causes one to experience more meaning in life. After researching more on that topic, it may be best to further the exploration by changing the scope of the experiment to assess if the image allows for more curiosity, awe, and wonder. We want to discover ways an individual can engage in those feelings more often in hopes this can lead to lower rates of mental illnesses all around and encourage positive mindsets. This research hopes to lead society to report higher rates of life satisfaction if meaning was found. In order to achieve this goal there are changes needed moving forward.

### **4.2 Limitations**

Each test we ran was intended to help us make casual inferences only. Most of our data is based on one specific population, therefore it hinders our ability to generalize to the overall public.

Since this is a convenient sample, we want to limit the amount of confounding variables as best we can. In order to do this, there is need for more strict guidelines. Future replications may want to consider giving different prompts for the images in order to avoid any repetition from participants. If this were to be done, it would be key to note that the prompts should remain

consistent for nonmystery images and mystery images by having three various prompts, but the same three prompts should be asked for the three mystery/non mystery images.

All of our images were of the nature which, according to Piff, Dietze,Feinberg, Stancato, & Keltner, D. nature in itself creates a sense of awe and wonder, thus eluding to meaning being experienced (Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. 2015). With this in mind, our survey did not offer any unique non-mysterious images, which in turn hurt our objective goal to produce neutral feelings.

### **4.3 Replications**

For further replications it would be imperative to note what the image depicts. Things such as sunsets, flowers, and other forms of nature typically lead to happiness and can skew desired results. Having more neutral images would be highly advised. Images of sidewalks or boxes are options we find could better suit the objective. We found images of the forest to be too similar and could have been a factor for our results not being what we wanted. Having a bigger emphasize on difference the images is crucial, because as stated before our images were too similar and did not produce enough differing results. After running our experiment, we now know it is better to have varying images, potentially even within the mystery and non-mystery categories.

Another way this study could be conducted would be to allow participants to complete the survey in person in hopes to eliminate the amount of low engagement from participants. This may be done in a way that allows participants to come in the lab and follow the same survey, however with the pressure of being watched in a lab setting, they may feel more inclined to take the survey more seriously. With this, it would require a potential time limit implemented to avoid having multiple participants in the room as this could cause some distress to our

participants. The survey may still address the same questions but may be asked in a different order to also avoid any skim reading participants may be involved in.

Within the survey there should be some reverse coded answer choices as well. With this we can catch any participants who began to lose interest and click the highest rating/lowest without any thought. This would help us eliminate results acquired from those uninterested.

It would also be interesting to attempt to complete this survey verbally to assess if that would excite more engagement from our participants. With the inclusion of a verbal conversation on these topics it would be intriguing to assess whether this would result in a deeper conversation between the participant and the interviewee in comparison to just completing it online. If participants were asked to do this in a two part study they may be able to complete the demographic questionnaire online on their own time and come into the lab and provide a story based on images we present to them. To help the creative flow we may provide a generic prompt that would produce some type of meaningfulness or a sense of belonging. We then can rate how connected they seem to feel with the story and how much they are able to invest in the story; the more investment the more meaningfulness felt, and vice versa. Adding some aspects in person may yield better results as it may take away any feeling of carelessness and would make participants be more involved in the study.

Should this experiment be replicated again there are some changes needed. Rather than using just images to evoke a mysterious feeling, participants can be given a mysterious box in which they are allowed no hints to figure out what it is. On the other hand, participants in our control sample should be told what is in the box and what is in it before they receive the box. Another way to achieve more generalizable results would be to include a different sample. If this were to be done again, it would be interesting to investigate older populations and compare their

level of meaning in comparison to young teens. If the results yield the same findings, it would be the case that mysterious experiences that are experienced all throughout life elicit the same level of meaning at any stage in life; if the results came out different it could bring a more interesting topic to discuss. With more life experiences people may interpret the experiences completely differently.

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