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Online information avoidance is a behavior of delaying or rejecting information consumption from online sources. It is an understudied construct in information systems research; however, information avoidance is studied extensively in economics, psychology, health, and media disciplines. Economists argue that rational agents avoid information when they feel it is detrimental to their economic outcome (Golman et al., 2017; Gul, 1991). Psychologists identify different predictors of information avoidance behavior, such as individual differences, motivations, and situation factors (Sweeny et al., 2010). Health information researchers also identify different psychological factors as predictors of information avoidance behavior, particularly in terminal diseases such as cancer (Miles et al., 2008).

Crisis literature suggests that people receive information from different sources in such unprecedented times, and online platforms have become one of the dominant sources. Crisis information from different online sources provides different psychological stimuli, shaping people's perceptions and behaviors in a crisis (Savage, 2020). While prior studies provide explanations of individual information avoidance behavior, there is not much attempt to identify how these findings relate to online information avoidance in a crisis. To understand the online information avoidance behavior in a crisis, we investigate online information avoidance in two different crises: a health crisis and a humanitarian crisis.

Using the COVID-19 pandemic as the health crisis, essay one investigates how individuals' fear and situational motivation impact online information avoidance. Using the self-determination and information avoidance theories, we argue that fear and situational motivation constructs impact online information avoidance through response efficacy, optimism, and coping

self-efficacy. From a pooled cross-sectional survey study, we find that fear and external regulation increase online information avoidance, whereas identified regulation is a significant inhibitor of online information avoidance. We also find that response efficacy, optimism, and coping self-efficacy mediate the relationship. Our robustness analysis using Important Performance Map Analysis (IPMA) and Artificial Neural Network (ANN) robustness checks support these results.

Information sources often take a partisan position during a humanitarian crisis such as the Russia-Ukraine war. In that scenario, individuals with a need to consume information framed in a neutral way or individuals with a partisan view may not find information that matches their worldview. This deviation is referred to as expectation violation in communication and media research. Extant literature explains how information consumer's expectation violation can impact objectivity and trust; however, how these relationships will hold in a humanitarian crisis and how these mechanisms lead to online information avoidance are major research questions. Using expectation violation, objectivity, and trust theories, essay two argues that violation expectedness, source importance, and valence will impact online information avoidance through the mediation of perceived objectivity and source trust. We have generated interesting insights from a multi-country survey study based in Poland and the United States. In Poland, violation expectedness increases online information avoidance significantly, and the importance of the relationship with the information source is a significant inhibitor of online information avoidance. Moreover, both trust and perceived objectivity mediate the relationship. In the USA, source importance and valence are important inhibitors of online information avoidance. However, only trust mediates the relationships. Our IPMA and ANN robustness analyses support these results.

While focusing on two different contexts, our studies contribute to the broader information systems research literature and specifically to the information avoidance literature during a crisis. Our study contributes to the literature by introducing online information avoidance as a vital outcome behavior after people are exposed to a myriad of information during a crisis. At a practical level, our studies' findings will be helpful for online information providers, governments, response organizations, and communities who utilize online platforms, forums, and related outlets to reach larger audiences for disseminating pertinent information and recommendations during a crisis.

UNDERSTANDING ONLINE INFORMATION  
AVOIDANCE BEHAVIOR  
DURING A CRISIS

by

Tahmina Sultana

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## DEDICATION

I want to dedicate this work to Md Abdur Rashid, Mariom Begum, Md Mahamudur Rahman, Md Mahbubur Rahman, Md Nabid Alam, Fariza Rahman Tuba, Faiza Rahman Taha, Wajiha Mahbub Ayat, and my lovely cat Bagheera Alam.

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## CHAPTER I: INTRODUCTION

A crisis can be defined as a major event or occurrence with a potentially unwanted outcome affecting an individual, group, or all of society (Lu & Jin, 2020). A crisis creates tension and uncertainty among the affected people. Communication in a crisis in the form of information and recommendation helps to navigate the uncertainty of the occurrence. Usually, these communications or information come from the government or other respective authorities. According to Kim (2015), different people perceive, interpret, and act differently in the same crisis. It is very important for people to consume and follow the relevant information in a crisis. According to a report in BlackBerry (2022), crisis information is no longer a nice to have it is a must. During a crisis, people are more curious about the news. News consumption in Australia increased up to 70% during the COVID-19 peak (March, 2020). Most people rely on their government for response information in a crisis. Online media can play a significant role in disseminating important information (Oni, 2022). According to a report by March (2020), on an average Australian people consume news more from online (58%) than print media (25%). A recent report by Reuters say that, younger people are relying on online platforms such as TikTok for news (Helen, 2022). Moreover, news consumption from online source is more active than print media because people can engage with the news by reacting, sharing, commenting etc.(Oni, 2022).

However, there is a concern that people are stopping news consumption. The reason can be many such as, misinformation, information overload, stress etc. According to a recent report by Reuters say that, people are intentionally avoiding important news regarding COVID-19, Ukrainian war, and the cost-of-living crisis (Helen, 2022). The report also says that although most people, that are surveyed, said they consume information, 38% says they often or

sometimes avoid news regarding a crisis. The percentage increased from 29% to 38% during the last seven years (Breiner, 2022; Helen, 2022). Also, 36% people report that crisis news lowers their mood. A report by CTV news say that COVID-19 news avoidance is associated with better mental well-being (Yun, 2021). People also avoid information that does not match their expectation or threatens their beliefs (Ratner, 2017). Moreover, trust on news media is also declining and it is lowest in the US among 46 countries (Allen, 2022; Benton, 2019; Helen, 2022). In short people are running away from news and particularly COVID-19 and Ukrainian war news (Allen, 2022).

Avoidance is a maladaptive behavior (Pietrangelo, 2020). Avoiding information or news regarding a crisis may have unwanted consequences. News or information avoidance may lead to noncompliant behavior and in a crisis that may result in harm to the individual and the society at large. Even though information may increase stress and feel painful right at the moment, it results in better and informed decision (De Ree, 2022). In a health crisis such as COVID-19, information is important as it comes with health recommendation that people need to follow. Avoidance of such information results in disaster at the global level. Moreover, the consequence of information avoidance regarding a crisis is alarming and can have serious implications for journalism as an industry (Breiner, 2022). According to applied crisis theories, there are four domains of crisis namely normal developmental crisis, situational crisis, existential crisis, and ecosystemic crisis (Skowrońska-Pućka, 2019). Normal developmental crises such as career change impact typical human development, situational crises are sudden and quick shock such as terrorist attacks and car accidents, existential crises are such that impacts long term freedom, and ecosystemic crises are natural or man-made disaster. Among the types of ecosystemic crisis we find natural phenomenon (hurricanes and tornadoes), biologically derived (health crisis),

politically based (war), and economic downturn (recession). Current crisis and information behavior literature extensively investigate the role of information and communication technologies in crisis response and crisis management. Moreover, after the emergence of social media the research community has started to investigate crisis communication from both formal and informal sources. Understanding people's information behavior in long-lasting global health emergency such as COVID-19 and regional war such as Russian-Ukraine war can thus generate impactful insights.

Ever since the start of the crisis, many online information sources have emerged. Individuals often get overwhelmed with the available information and in some cases, there is a consequent ill-effect. In extreme cases excessive information has a negative effect on individuals. Swar et al. (2017), for instance, found a negative correlation between information overload and psychological well-being of individuals. Similarly, Bunker (2020) note “alarming levels of digital destruction which in turn undermines social cohesion” thus inhibiting shared situational awareness and an appropriate crisis response. While information overload does have negative consequences, there is another phenomenon that takes hold – information avoidance. We define information avoidance as a behavior of delaying or rejecting information consumption from online sources. As Savage (2020) notes, during crisis, over-consumption of news made people avoid information so that they could curtail anxiety and manage other psychological stimuli. Another report released by Pew Research Center suggests that seven out of ten Americans confessed they stopped looking at crisis news to avoid emotional stress (Mitchell et al., 2020). Another survey in the United Kingdom found that 66% of the respondents intentionally avoided information as they were worried about the psychological ill effects (Kalogeropoulos, 2020). These reports find that people are making tradeoff between direct health



consequences and emotional wellbeing by engaging in information avoidance, and as a result, the health information campaigns are not delivering the intended results (Kalogeropoulos, 2020). It is thus important for us to understand how positive and negative psychological stimuli impact information avoidance. While COVID-19 and Russia-Ukraine war present an ideal context for this study, the findings can be applied to any crisis situation.

Information avoidance has extensively been studied in behavioral economics, psychology, and health information fields. In behavioral economics, information avoidance is explained by an individual's extrinsic motivation to maximize benefit and minimize cost at the time of economic decision-making (Golman et al., 2017). Golman et al. (2017) show that information can directly enter a person's utility function that can create an incentive to avoid or seek information. However, even if the information is useful and free, sometimes people tend to avoid it. From the economic perspective, perceived threat or risk can also influence information avoidance. Gul (1991) suggests that risk aversion implies disappointment aversion, and recursive disappointment aversion in a dynamic setting necessarily leads to information avoidance until all uncertainty can be resolved at once. Extant literature in psychology shows that motivation and individual differences are significant factors to consider while explaining online information avoidance behavior. Popova (2012) studies information acceptance or avoidance using protection motivation and defensive motivation as antecedents. Moreover, these motivations can vary from person to person. Research also incorporates individual differences to explain information avoidance behavior. Howell and Shepperd (2016) investigate information-seeking or avoidance behavior by using individual differences (uncertainty orientation, curiosity, monitoring, blunting, etc.) as antecedents. Sweeny et al. (2010) propose a framework for information seeking or

avoidance that uses individual differences and motivations (self-regulation, obligation to act, and threats to belief) as predictors.

Extant research also uses self-determination theory constructs as antecedents of information acquisition behavior (Dubnjakovic, 2017). The concepts of situational motivation such as intrinsic motivation, identified regulation, and external regulation have emerged from self-determination theory (Guay et al., 2000). Dubnjakovic (2018) and Wang (2016) find that intrinsic motivation and identified regulation result in lower information avoidance. Sweeny et al. (2010) posit external regulation in the form of higher obligation to increase information avoidance. Information avoidance is also studied in health information literature. People can avoid health-related information for different reasons such as to avoid fear, anxiety, change in certain beliefs, or change in lifestyle (Ajekigbe, 1991; Miles et al., 2008; Sweeny et al., 2010; Varga, 2001). Miles et al. (2008) investigated the predictors of information avoidance in cancer patients. Their study identified that people's negative perception about cancer, such as fear, fatalism, and perceived severity, leads them to avoid cancer-related information. Similarly, Gullatte et al. (2010) found that an individuals' cancer fatalistic belief leads them to avoid or delay health-related information. In one study, Ajekigbe (1991) identified that women in Nigeria were reluctant to test for breast cancer, even if they had symptoms, in fear of mastectomy. Extant literature on information avoidance in the context of COVID-19 focuses on Infodemic (Kim et al., 2020; Siebenhaar et al., 2020), information overload, and anxiety (Soroya et al., 2021).

Several scholars have considered information avoidance from uniquely different perspectives. Economists have argued that rational agents will avoid information if it is detrimental to the economic outcome (Golman et al., 2017; Gul, 1991). Psychologists have presented models to predict information avoidance behavior using different motivations,

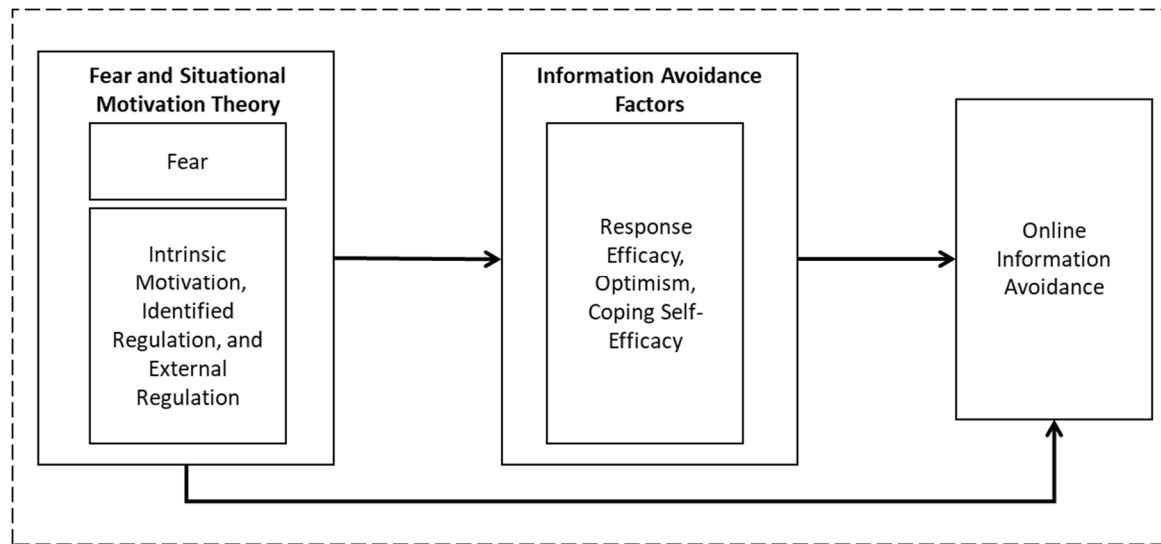
individual differences, and situational factors (Sweeny et al., 2010). Health information scholars have identified psychological variables as predictors of health information avoidance, particularly in the context of terminal diseases such as cancer (Miles et al., 2008). While prior studies provide an extensive explanation about individual information avoidance, there is not much attempt to identify how these findings relate to online information avoidance. As in the case of the crisis, people are getting necessary information and recommendations via internet sources; hence, we must find what leads to online information avoidance. To understand the phenomenon, we also reviewed crisis-related online communication literature. The literature suggests that different sources of online information provide different psychological stimuli. These psychological stimuli shape people's perception and behavior during the pandemic regarding information consumption (Savage, 2020). Online information impacts individual's psychological safety and sometimes induces fear and anxiety among users, leading to maladaptive behaviors (Ahmad & Murad, 2020; Basch et al., 2020; Rao et al., 2020; Rouleau et al., 2020). Our study contributes to the literature by introducing online information avoidance as an important outcome behavior after people are exposed to a myriad of information. In our study we use crisis as a case in point to understand why people refrain from consuming online information.

### **1.1 Online Information Avoidance in Health Crisis**

Fear is an adaptive emotion in the presence of a perceived danger such as COVID-19, whereas response efficacy measures information effectiveness (Lewis et al., 2010). Howell and Shepperd (2016) identify that individuals' coping self-efficacy and optimism negatively associate with information avoidance behavior. Coping self-efficacy refers to an individual's ability to cope effectively in a situation (Chesney et al., 2006). Optimism refers to an expectation of positive life outcomes (Howell & Shepperd, 2016). Moreover, Sweeny et al. (2010) propose a framework for information seeking or avoidance that uses both individual differences and different motivations (self-regulation, obligation to act, and threats to belief) as antecedents for the avoidance behavior. These different motivations are also connected to how individuals assess their involvement with a current commitment such as experiencing a crisis. COVID-19 crisis brings different challenges and threats, therefore, response to the crisis depends upon an individual's self-determination and coping strategy (Chesney et al., 2006; Guay et al., 2000; Moneta & Spada, 2009). We argue that during the COVID-19 crisis, people's self-determination in the form of situational motivation can explain the online information avoidance behavior through crisis coping mechanisms. Situational motivation, derived from self-determination theory, is the individual's motivation in a specific situation or activity (Vallerand, 1997). This situational motivation includes - a) intrinsic motivation, b) identified regulation, and c) external regulation. Intrinsic motivation is the behavior driven by internal joy and satisfaction without the intervention of self-regulation, identified regulation is an individual's self-realization about the importance of an action with self-regulation, and external regulation occurs when an individual is obliged to perform an act (Deci, 1971). Combining the psychological and health information avoidance theories (Miles et al., 2008; Sweeny et al., 2010) with the self-determination theory

(Deci & Ryan, 1985), we argue that an individual's sense of fear and situational motivation during COVID-19 can impact online information avoidance through crisis psychological factors such as response efficacy, optimism, and coping self-efficacy. Figure 1 shows the conceptual model.

**Figure 1 Conceptual Model of Online Information Avoidance in Health Crisis**



The objective of this study, thus, is to find how an individual's sense of fear and situational motivation impact online information avoidance behavior through the mediation of pandemic-related psychological factors. Specifically, this research addresses two research questions.

(1) How fear is associated with online information avoidance through the mediation of an individual's response efficacy, optimism, and coping self-efficacy during COVID-19?

(2) How intrinsic motivation, identified regulation, and external regulation is associated with online information avoidance through the mediation of response efficacy, optimism, and coping self-efficacy during COVID-19?

After reviewing literature streams, we have found three research areas where this research can contribute. First, current literature does not explain how various psychological stimuli can lead to online information avoidance. Second, the information avoidance literature provides enough understanding regarding the behavior under critical health disease context. However, how such understanding can be applied to a crisis is understudied. Third, information avoidance literature is yet to investigate how the fear and situational motivation constructs such as intrinsic motivation, identified regulation, and external regulation lead to online information avoidance during a crisis through the mediation of established psychological antecedents viz. efficacy, optimism, and coping self-efficacy. As our study investigates online information avoidance during a crisis, incorporating situational motivation factors from self-determination theory with psychological and health information avoidance theories (Miles et al., 2008; Sweeny et al., 2010) can provide us with a robust explanation regarding the behavior.

### **1.2 Online Information Avoidance in Humanitarian Crisis**

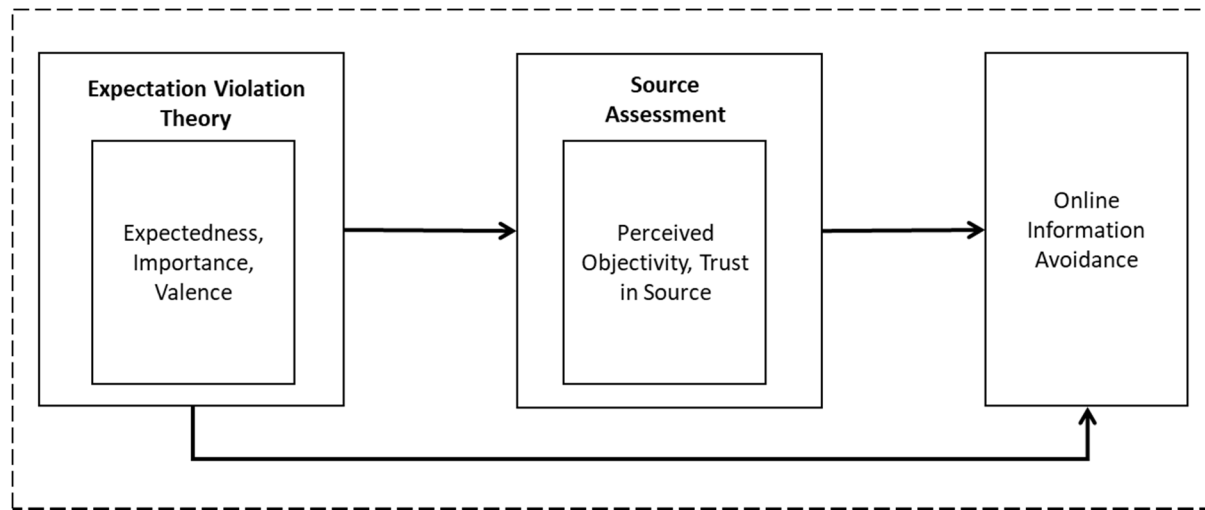
Expectation violation theory is extensively used in relational communication discipline. In this field, first, extreme and highly salient violations are studied; second, a large number of research focuses on the negatively valenced behavior; third, violations are assumed to increase relational uncertainty states; and fourth, most evidences are descriptive (Afifi & Metts, 1998). Considering these limitations, Afifi and Metts (1998) propose expectation violation to be measured using expectedness, importance, and valence constructs. Violation expectedness is defined as the whether the relationship deviation is surprising for the violation recipient. Importance is referred to as the significance of the relationship for which a violation is experienced. Generally, violation valence is the hedonic construct that describes the negative emotional outcomes such as betrayal, disrespect, and disregard for integrity. By combining the

understanding from the communications and relationship disciplines, researchers also utilize this expectation violation theory in the contexts of information systems and media research. The construct perceived objectivity is one of the key components of news and information dissemination (Lee, 2020). Perceived objectivity is a norm to follow by the information disseminator and can be defined as neutrality, detachment, fairness, and unbiasedness (Mindich, 2000; Rosen, 1994; Ruigrok, 2008). Information providing entity needs to ensure that it does not serve any group or promote any point of view while informing the audience about a phenomenon (Christians et al., 2010). Thus, value-free, and fact-based reporting is expected from quality information provider. Perceived objectivity is investigated in communication, media, and information systems contexts (Holbert & Grill, 2015).

Trust construct is another key component of news and information dissemination studies. Information credibility literature identifies two major characteristic of information sources: expertness and trustworthiness (Hovland et al., 1953). In earlier studies, trustworthiness is defined as impartiality (Hovland et al., 1953). Later, robust measurements are used to capture individual's trust in information source such as news media. Kohring and Matthes (2007) propose trust as the function of selectivity of topics (what type of information is being presented in the media), selectivity of facts (how much robust background and context are presented in the presented topics), accuracy or depictions (how much verifiable information are being presented in the reports), and journalistic assessment (how much journalistic due diligence are being shown). Trust in information source is found to be widely used in traditional media (newspaper and television) and online media (online news and social media) research. Combining the expectation violation theory (Burgoon & Jones, 1976) and information source assessment theories (Kohring & Matthes, 2007; Lee, 2020) and conceptualizing these in the context of a war,

we also argue that an individual's expectation violation from information sources can impact online information avoidance through source assessment factors. Figure 2 shows the conceptual model.

**Figure 2 Conceptual Model of Online Information Avoidance in Humanitarian Crisis**



The objective of this research, thus, is to find how an individual's expectedness, importance, and valence of information source impact online information avoidance behavior through the mediation of information source assessment constructs. Specifically, this research addresses three research questions.

(1) How is expectedness about information source's expectation violation associated with online information avoidance through the mediation of an individual's perceived objectivity and trust in source during a war?

(2) How is importance of information source associated with online information avoidance through the mediation of an individual's perceived objectivity and trust in source during a war?



(3) How is valence of information source's expectation violation associated with online information avoidance through the mediation of an individual's perceived objectivity and trust in source during a war?

After reviewing literature streams, we have found three research areas where this research can contribute. First, current literature does not explain how various psychological stimuli can lead to online information avoidance. Second, the information avoidance literature provides enough understanding regarding the behavior under critical health disease context. However, how such understanding can be applied to a crisis is understudied. Third, information avoidance literature is yet to investigate how the fear and situational motivation constructs such as intrinsic motivation, identified regulation, and external regulation lead to online information avoidance during a crisis through the mediation of established psychological antecedents viz. efficacy, optimism, and coping self-efficacy. As our study investigates online information avoidance during a crisis, incorporating situational motivation factors from self-determination theory with psychological and health information avoidance theories (Miles et al., 2008; Sweeny et al., 2010) can provide us with a robust explanation regarding the behavior.

## CHAPTER II: LITERATURE REVIEW

### 2.1 Information Consumption

Information consumption behavior is one of the most studied phenomes in the literature. Different fields have studied this behavior in different contexts with different predictors and outcomes. Information systems investigate this behavior in the contexts of online information behavior, social media use, information seeking, online news consumption, fake news, and political news consumption (Bessi, Caldarelli, et al., 2014; Cooke, 2017; Kim, 2009; Kim, 2007; Pentina & Tarafdar, 2014). Metzger et al. (2015) identify that individuals' cognitive development, decision-making style, digital information literacy, and demographic style influences their evaluation awareness, skills, and practices, therefore, impact their information consumption behavior. Also, perceived information quality plays a significant role in predicting information consumption behavior (Li et al., 2017). Guan et al. (2021) posit that self-control and self-promote behavior influence deliberate news consumption.

Moreover, similarity in the self-interest is one of the key predictors of information exposure and continuous consumption. According to Bessi, Caldarelli, et al. (2014) people consume information that matches their worldviews. This is one of the reasons people do not check the credibility of the information and consume as well as spread fake news. Bessi, Scala, et al. (2014) find that people have similar information consumption patterns even if the content is different. Also, users who are exposed to unsubstantiated news are more vulnerable to interacting and trusting false claims. In another study Cooke (2017) investigate that meta literacy and critical thinking are important in combating fake news. Motivations also, play a significant role in understanding information consumption behavior. According to Kim (2007) intrinsic and extrinsic motivations and the interplay between these two influences online political information

consumption. Social media is also being used as a platform for information consumption.

Velichety and Ram (2013) suggest that in Twitter, people follow each other as a form of information consumption. Researchers also identify that political information consumption from social media impacts political participation (Neo, 2019). However, people consume information from social media but do not use social media for information consumption only (Matsubayashi et al., 2017).

Medical and public health literature suggest that with the advent of information technology, people now seek health related information from internet but social media such as Facebook, Twitter are not reliable to people yet (van Velsen et al., 2012). People trust online news sources more than social media for reliable information. Moreover, public health researchers emphasized on media literacy among the users who use internet for health information consumption. According to Lee and Ramazan (2021) individuals' media literacy influences their fact checking behavior for available health information. Crisis literature also investigate individuals' information seeking or avoidance behavior in a crisis. Researchers identified different predictors of information consumption behavior (Lu & Yuan, 2021; Lu & Jin, 2020; Tang & Zou, 2021). According to Lu and Jin (2020) individual's motivation, coping, information characteristics, validity of conclusion, and self in relation to crisis is important factors of crisis information consumption and transmission.

In a health crisis such as COVID-19 people seek information from different sources. Information consumption is a prime concern in such situation. Therefore, is important to understand the drivers and inhibitors of information consumption behavior. Liu (2021) find that information consumption impacts COVID-19 preventive behavior through the mediation of personal responsibility. With a similar finding van Antwerpen et al. (2021) suggest that

information consumption regarding COVID-19 positively impacts protective behavior through the mediation of anxiety. Social media is used vastly to seek and transmit crisis information such as COVID-19. People seek COVID-19 related information through different social media and online news media that is associated with worry and result in preventive behavior (Liu, 2020). Moreover, content of the information is an important factor for consumption on social media (Perez-Cepeda & Arias-Bolzmann, 2022). Other than social media, online news platforms, government websites are also important source of health information in a crisis. Tang and Zou (2021) investigate the information seeking behavior in a crisis and find that, at first people seek information from government official sources. Also, information sharing is mostly done with family members through different private channels. Similarly, Zhao and Tsang (2022) report that COVID-19 preventive behavior is influenced by information seeking through interpersonal channel, news media and government sources.

Other literature investigates this information consumption in different contexts. In the political contexts information consumption plays a vital role because information shapes the decision point of the people. Neihouser et al. (2022) identify that the impact of the consumption of political information on the political participation varies across different information sources (online, offline, news media). Moreover, Individual's personality traits impact their consumption and engagement with political information from different sources (Gerber et al., 2011). In the economics context, Ganguly and Tasoff (2017) report that Individuals' information consumption choice is correlated with time preference, positive affect, and ambiguity aversion. That provides insight that sometimes people avoid information to enhance their utility function. People may avoid information for their personal interest. Table 1 summarizes the information consumption behavior literature.

**Table 1 Literature Summary of Information Consumption Behavior**

<b>Category</b>	<b>Author and Year</b>	<b>Context</b>	<b>Role of Information Consumption</b>	<b>Key Finding</b>
<b>Information Science and Systems</b>	Kim (2007)	Online political information consumption	Dependent variable	Intrinsic and extrinsic motivations and the interplay of these two influences significantly on online political information consumption and candidate evaluation.
	Raban (2007)	Information evaluation	Independent variable	Explained how four approaches (descriptive, rational, social, and behavioral) evaluate information.
	Kim (2009)	Information seeking	Dependent variable	14 distinct information-seeking strategies were identified and suggested from several behavioral dimensions.
	Velichety and Ram (2013)	Social media use	Dependent variable	On Twitter, people follow each other as a form of information consumption. However, subscription is a volatile form of information consumption. Users not necessarily follow the people they subscribe.
	Pentina and Tarafdar (2014)	News consumption	Dependent variable	Contemporary news sensemaking and subsequent action is dependent on information overload coping strategies.
	Bessi, Caldarelli, et al. (2014)	Content selection	Dependent variable	Information that provides different worldviews such as scientific and conspiracist are consumed by people with different worldviews. Moreover, contrasting or teasing consumers of conspiracy claims interacts with unsubstantiated rumors more.
	Bessi, Scala, et al. (2014)	Social media use	Independent variable	People have similar information consumption patterns even if the nature content is different. Users exposed to more unsubstantiated information sources are prone to interact with false claims.
	Metzger et al. (2015)	Information evaluation	Dependent variable	Cognitive development, decision-making style, digital information literacy, and demographic background predict information consumption behavior by influencing information evaluation awareness, skills, and practices.

	Matsubayashi et al. (2017)	Online news consumption	Dependent variable	People consume news from social media but do not use social media for news consumption only. Also, news aggregators that do not have diversity encourage social exclusion.
	Cooke (2017)	Fake news and information evaluation	Dependent variable	Critical thinking and meta literacy are important in combating fake news.
	Li et al. (2017)	Online knowledge consumption	Dependent variable	Perceived information quality is the most important driver of online knowledge consumption and free values are the most unimportant factor.
	Neo (2019)	Online political information consumption	Independent variable	Political information consumption from social media impact political participation positively in both like-minded and dissimilar conversations.
	Perez-Cepeda and Arias-Bolzmann (2020)	Social media use	Dependent variable	Objects, mages, and texts, included in the Twitter conversations provide significant indication for information consumption behavior specifically, homosexual subculture consumption.
	Kitchens et al. (2020)	Social media news consumption	Dependent variable	Differentiated news consumption behavior is generated by different platforms (Twitter, Facebook, and Reddit)
	Au et al. (2021)	Political news consumption		Political extremists are more capable of identifying the validity of online news and information.
	Lee and Suh (2022)	News consumption behavior	Dependent variable	Self-control and self-promote behavior influence deliberate news consumption behavior.
	Guan et al. (2021)	Information selection and knowledge sharing	Dependent variable	Self-level interest similarity is the most important factor to predict information exposure and continuous consumption.
<b>Medical and Public Health</b>	van Velsen et al. (2012)	Information behavior during infectious disease	Dependent variable	Internet is the most popular media for information seeking. However, social media such as Facebook, Twitter are unreliable source of information rather people rely more on different online news sources.
	Lee and Ramazan (2021)	Health information consumption	Moderating variable	Media literacy influences fact checking behavior for available health information. Metacognition has a mediating effect on the relationship between media literacy and fact checking behavior.

				However, the mediating effect is weaker when there is a moderating effect of higher information exposure.
<b>Crisis</b>	Lu and Jin (2020)	Crisis information	Independent variable	Individual's motivation, coping, information characteristics, validity of conclusion, and self in relation to crisis is important factors of crisis information consumption and transmission.
<b>COVID-19</b>	Liu (2020)	Social media use	Mediating variable	People seek COVID-19 related information through different social media and online news media that is associated with worry and result in preventive behavior.
	Liu (2021)	Health information consumption	Independent variable	Information consumption impacts preventive behavior through the mediation of personal responsibility.
	Tang and Zou (2021)	Health information consumption	Dependent variable	At first people seek information through government official sources, information sharing mostly done with family members through private channels.
	Nazione et al. (2021)	Health information exposure and consumption	Independent variable	Health websites, particularly government websites are underutilized resources.
	van Antwerpen et al. (2021)	COVID-19 protective behavior	Independent variable	Information consumption impact COVID-19 protective behavior positively. There is also a mediating effect of anxiety is present.
	Zhao and Tsang (2022)	Information seeking	Independent variable	COVID-19 preventive behavior is influenced by information seeking through interpersonal channel, news media and government sources.
	Perez-Cepeda and Arias-Bolzmann (2022)	Information consumption on social media	Dependent variable	Tweet content is very important for the users who consume information from Twitter. Moreover, emojis and hashtags are used in the content to strengthen the content and to make it more meaningful.
<b>Others</b>	Sonnenwald et al. (2001)	Information seeking	Independent variable	A new method information horizon map is created to investigate individual's information seeking behavior.
	Gerber et al. (2011)	Political information consumption	Dependent variable	Individual's personality traits impact their consumption and engagement

				with political information from different sources.
Luo (2021)	Information consumption behavior of print materials	Dependent variable		Shelf time and book size impact information consumption of print materials.
Neihouser et al. (2022)	Political information consumption	Independent variable		The impact of the consumption of political information on the political participation varies across different information sources (online, offline, news media).
Ganguly and Tasoff (2017)	Behavioral economics	Dependent variable		Individuals' information consumption choice is correlated with time preference, positive affect, and ambiguity aversion.

## 2.2 Information Avoidance

Information avoidance is an important behavior in the information consumption domain. We need to understand the factors of information consumption or information seeking at the same time we also need to understand why people avoid information. This information avoidance behavior has been studied extensively in different literature such as, economics, public health, crisis, information systems and science, and COVID-19 literature. In economics information avoidance is studied as a part of utility function. It is believed that this behavior is associated with any kind of incentive. According to Frey (1982) people avoid irrelevant information more than relevant information when there is proper incentive. Sometimes avoidance of information is part of the strategic plan. Poulsen and Roos (2010) suggest that a game theoretic player avoids information unless the competitor shows or signals strategic commitment. Also, the information avoidance can be part of the cost aversion process. From the ethical decision point people avoid moral information when pro-social actions become costly (Van der Weele, 2012). According to Momsen and Ohndorf (2020), carbon offset information avoidance depends on price and externalities. In addition to that, Feiler (2014) report that people avoid information as long as the self-serving choice does not hurt themselves. However,



researchers also find that not always information avoidance is part of the incentive. Huck et al. (2015) suggest that workplace information avoidance does not depend upon incentive rather depends on information's instrumental value. And the information avoidance decreases with more importance, more salience, and higher valence (Golman et al., 2021).

Information systems literature investigate the information avoidance behavior from different contexts (Dai et al., 2020; Guo et al., 2020; Narayan et al., 2011; Webb et al., 2013). It is important to understand the reason and outcome of information avoidance to help people consume the important information. Neben (2015) posit that Defensive motivation decreases information exposure and increases absorption avoidance and use avoidance. Also, lower motives regarding self-enhancement, self-verification, self-assessment, and self-improvement leads to information avoidance (Webb et al., 2013). In the context of social media use, researchers find that social media fatigue, dissatisfaction, and frustration positively affects information avoidance intention (Dai et al., 2020). Also, social network fatigue positively affects information avoidance behavior with the moderation of time pressure (Guo et al., 2020). Moreover, Narayan et al. (2011) report that long-term information avoidance is caused by exposure to information that are trivial for possessed worldviews and short-term information avoidance is caused by exposure to higher perceived risk of knowing a fact.

Information avoidance is one of the most extensively studied construct in the medical and public health literature. Different drivers and inhibitors of information avoidance behavior is identified and more research going on. From the literature we know that information avoidance, health literacy, and health justice are interrelated concepts (St. Jean et al., 2017). Also, avoidance of information impacts health wellbeing (Heck & Meyer, 2019). Studies report that individuals' mental health, discomfort, and fear drives information avoidance behavior (Case et al., 2005;

Persoskie et al., 2014). Also, cancer worry and cancer risk perception are positively associated with cancer information avoidance (Chae, 2015). Sometimes people avoid information that conflicts with their beliefs (Yang et al., 2021). The undesirable recommendations is also another factors of information avoidance (Howell & Shepperd, 2013a). information overload also plays a significant role. Studies find that cancer information overload leads to more avoidance of information (Chae, 2016; Chae et al., 2020). A few studies talk about the inhibitors of this avoidance behavior. It is reported that people's self-worth, coping self-efficacy, and contemplation reduces information avoidance (Howell & Shepperd, 2012, 2013b).

The role of information is vital in the context of COVID-19. It is important for the people to follow the guideline provided by the government and other health authorities. In this case, if people avoid information that can increase national and international crisis. Therefore, it is crucial to understand the information avoidance behavior in a crisis such as COVID-19. The COVID-19 literature suggest that anxiety and stress caused by COVID-19 related information is one of the major predictors of information avoidance in this context (Siebenhaar et al., 2020; Soroya et al., 2021). Moreover, exposure to misinformation is another reason for avoidance (Kim et al., 2020). Other literature also investigates the information avoidance behavior predictors and inhibitors. In the context of romantic relationship Sweeny and Miller (2012) find that perceived benefit and anticipated regret predict information avoidance decision. Consumer research literature suggest that older consumers are more likely to avoid information (Deng et al., 2022). Also, consumers with no opinion avoid less information when exposed to reputation building messaging (Lallement et al., 2020). Individual's attitude also plays a significant role in predicting or decreasing avoidance behavior. Studies report that attitude toward information seeking, avoidance, avoidance-related subjective norms, and affective risk response increases information

avoidance intent and perceived knowledge insufficiency decreases information avoidance intent (Kahlor et al., 2020; Yang & Kahlor, 2013). Table 2 summarizes the information avoidance literature.

**Table 2 Literature Summary of Information Avoidance Behavior**

Category	Author and Year	Context	Role of Information Avoidance Construct	Key Finding
<b>Economics and Finance</b>	Frey (1982)	Decision-making under cognitive dissonance	Dependent variable	Under all experimental conditions, irrelevant information is avoided more than relevant information when proper incentives are in place.
	Poulsen and Roos (2010)	Strategic decision	Dependent variable	A game-theoretic player avoids information unless the competitor shows or signals strategic commitment.
	Van der Weele (2012)	Ethical decision	Dependent variable	People avoid moral information when pro-social actions become costly.
	Feiler (2014)	Social choice decision	Dependent variable	People avoid information as long as the self-serving choice does not hurt themselves.
	Huck et al. (2015)	Effort in workplace	Dependent variable	Workplace information avoidance does not depend upon incentive rather depends on information's instrumental value.
	Blajer-Gołębiewska et al. (2018)	Financial risk	Dependent variable	Financial decision-makers risk coping style, locus of risk control, and risk-relevant emotional responses are significant predictor of financial risk information avoidance.
	Momsen and Ohndorf (2020)	Green market	Dependent variable	Carbon offset information avoidance depends on price and externalities.
	Golman et al. (2021)	Decision-making under information gap	Dependent variable	Information avoidance decreases with more importance, more salience, and higher valence.
<b>Information Science and Systems</b>	Narayan et al. (2011)	Routine information maintenance	Dependent variable	Long-term information avoidance is caused by exposure to information that are trivial for possessed worldviews and short-term information avoidance is caused by

				exposure to higher perceived risk of knowing a fact.
	Webb et al. (2013)	Goal progress	Dependent variable	Lower motives regarding self-enhancement, self-verification, self-assessment, and self-improvement leads to information avoidance.
	Neben (2015)	Information use	Dependent variable	Defensive motivation decreases information exposure and increases absorption avoidance and use avoidance.
	Dai et al. (2020)	Social media use	Dependent variable	Social media fatigue, dissatisfaction, and frustration positively affects information avoidance intention.
	Guo et al. (2020)	Social networking sites	Dependent variable	Social network fatigue positively affects information avoidance behavior with the moderation of time pressure.
<b>Medical and Public Health</b>	Case et al. (2005)	Cancer information	Dependent variable	Mental discomfort and dissonance cause information avoidance.
	Howell and Shepperd (2012)	Health decision-making	Dependent variable	People's self-worth reduces information avoidance.
	Howell and Shepperd (2013a)	Medication	Dependent variable	People avoid information that forces undesirable behavior.
	Howell and Shepperd (2013b)	Health decision-making	Dependent variable	People's contemplation reduces information avoidance.
	Howell et al. (2014)	Health decision-making	Dependent variable	People who lack personal and interpersonal resources avoid learning potentially life-threatening information.
	Persoskie et al. (2014)	Health maintenance	Dependent variable	Fear increases information avoidance.
	Chae (2015)	Cancer information	Dependent variable	Cancer worry and cancer risk perception are positively associated with cancer information avoidance.
	Taber et al. (2015)	Genetics	Independent variable	Information avoidance corresponds with the intention to learn about unpreventable genetic disease.
	Chae (2016)	Cancer information	Dependent variable	Cancer information overload is positively associated with cancer information avoidance.
	Howell et al. (2016)	Health outcome	Dependent variable	Self-reported and implicitly measured attitudes independently predict information avoidance decision.

	Howell and Shepperd (2016)	Personal health	Dependent variable	Social rejection prompts information avoidance.
	St. Jean et al. (2017)	Cancer information	Independent variable	Information avoidance, health literacy, and health justice are interrelated concepts.
	McCloud et al. (2017)	Smoking	Mediator variable	Information avoidance mediates the relationship between personal characteristics and non-compliance of health warning.
	Orom et al. (2018)	Health risk information	Independent variable	Information avoidance predicts lower health protection behavior.
	Heck and Meyer (2019)	Genetics	Independent variable	Information avoidance impacts health well-being.
	Chae et al. (2020)	Cancer information	Dependent variable	Cancer information overload and cancer fatalism predict information avoidance.
	Yang et al. (2021)	Smoking	Dependent variable	Information that conflicts with beliefs increases health recommendation avoidance.
	Link and Baumann (2022)	Cancer information	Dependent variable	Prior cancer experience in family increases cancer information avoidance.
	Hua and Howell (2022)	Personal health	Dependent variable	Coping self-efficacy decreases information avoidance.
	Peterson et al. (2022)	Genetics	Independent variable	Information avoidance is negatively associated with receiving health test results through the moderation of race.
<b>COVID-19</b>	Kim et al. (2020)	Misinformation	Dependent variable	Misinformation exposure increases information avoidance through the mediation of information insufficiency and moderation of country culture.
	Siebenhaar et al. (2020)	Infodemic	Mediator variable	Information avoidance mediates the relationship between information distress, trust, and anxiety with compliance behavior.
	Soroya et al. (2021)	Online information	Dependent variable	Information anxiety increases information avoidance.
<b>Others</b>	Sweeny and Miller (2012)	Romantic relationship	Dependent variable	Perceived benefit and anticipated regret predict information avoidance decision.
	Yang and Kahlor (2013)	Climate change	Dependent variable	Attitude towards information seeking is negatively associated with information avoidance.

Kahlor et al. (2020)	Environmental risk	Dependent variable	Attitude towards avoidance, avoidance-related subjective norms, and affective risk response increases information avoidance intent and perceived knowledge insufficiency decreases information avoidance intent.
Deline and Kahlor (2019)	Risk information	Dependent variable	Subjective norm, attitude towards avoidance, affective risk response, and risk information avoidance intentions are posited to be predictors of information avoidance behavior.
Lallement et al. (2020)	Consumer reputation building	Dependent variable	Consumers with no opinion avoid less information when exposed to reputation building messaging.
Deng et al. (2022)	Consumer decisions	Dependent variable	Older consumers deliberately involve in information avoidance behavior.

### 2.3 Online Communication during Crisis

Extant literature before COVID-19 has focused on the role of online communication during a crisis. Online communication fosters the dissemination of information among people using digital means. Several studies investigate the impact of different sources and perceptions of online information on crisis management (Al-Omoush et al., 2020; Austin et al., 2012; Gruber et al., 2015; Hagar, 2013; Kahlor et al., 2020; Roy et al., 2020). With the advent of the internet and social media, much of the crisis information is disseminated and consumed through online means, may it be online news, blogs, social media, and different interactive dashboards (Procopio & Procopio, 2007; Ristvej & Zagorecki, 2011; Sweetser & Metzgar, 2007). For instance, Tran and Lee (2016) found that in any severe outbreak such as bird flu, Ebola, and SARS, people get information and share information using social media. There is no doubt that social media and online forums and interactions play a vital role in crisis information sharing.

During a crisis such as COVID-19 as people are getting information from many online sources, it is important for the government and health agencies to find a suitable mechanism to

disseminate the information for better effectiveness. Research has found that people prefer interactive online platforms over static media for information dissemination, particularly during a crisis or disaster (Procopio & Procopio, 2007). Schultz et al. (2011) report that using certain technologies influences crisis communication because of the technology itself and user experiences and interpretation of that media technology. In line with the importance of online information during a crisis, Househ (2016) suggests that governments and health organizations should take advantage of the electronic news media and social media for disseminating preventive information in a health and environmental crisis.

Even though online information has beneficial impact on managing a crisis, several studies have found that information recipients' psychological state and perception play a significant role in whether that information will be utilized. A study on hurricane Rita suggests that, although people get preventive information, they will act upon the information to perceive the crisis's risk as high (Zhang et al., 2007). Moreover, people's perception of their information sufficiency also impacts their information seeking and information avoidance behavior. Kahlor et al. (2020), in a study on earthquakes, report that people who perceive themselves as sufficient with crisis information will avoid further details. Therefore, an individual's psychological factors play an essential role in responding to disasters after receiving online information.

Qazi et al. (2020) argue that the source of information impacts an individual's situational awareness and protective behaviors. Farooq et al. (2020) found that online information can positively impact an individual's self-isolation intention through perceived severity and self-efficacy. Similarly, Park et al. (2020) suggest that online information highlights the complimentary items and gets more attention from people. However, excessive consumption of information may increase people's concern and worry about the crisis (Bunker, 2020; Kirk &

Rifkin, 2020; Lau et al., 2020). Ahmad and Murad (2020) suggest that sometimes information shared on social media triggers fear and panic among the users. This fear and anxiety induce maladaptive behaviors (Basch et al., 2020). An Individual's psychological well-being is also affected by fearful news and information over different social media (Ko et al., 2020).

## **2.4 Response Efficacy, Optimism, and Coping Self-efficacy in Information Behavior**

Response efficacy, optimism, and coping self-efficacy constructs are used in literature to explain causes of information behaviors. Extant literature finds response efficacy as a significant predictor of information behavior in the contexts of public health and pandemic health recommendations, vaccine recommendation in both general and pandemic cases, and information avoidance. Research finds response efficacy's negative association with smoking-related message forgoing behavior (Thrasher et al., 2016), and positive association with maintaining and catalyzing food habit change (Meijers et al., 2022), health recommendations effectiveness (Han et al., 2016) and persuasion capability (Cismaru et al., 2009). Yu et al. (2022) identifies perceived response efficacy causes social distancing compliance during COVID-19 pandemic. Response efficacy also affects vaccination rates in diseases such as Human Papillomavirus (Myhre et al., 2020) and COVID-19 (Lammers & van der Holst et al., 2022). Information avoidance literature shows response efficacy as an inhibitor of avoiding fatal health-related information (Miles et al., 2008), stress-related information (Shi, 2019), and crisis information (Gutteling & De Vries, 2017).

Literature identifies optimism as a significant factor for information behavior in the contexts of personality traits, health information, pandemic management, and information avoidance. Icekson et al. (2014) argues optimism reduces negative effect of avoidance motivation when the respondents exercise creativity. Health literature finds optimism is



associated with superior well-being in people with chronic health problems (Bedi & Brown, 2005), increasing task-oriented coping and decreasing emotion-oriented coping in health counselling cases (Hatchett & Park, 2004), and reducing health threats (Fowler & Geers, 2015). The H1N1 and COVID-19 pandemic management research identifies the importance of optimism in increasing compliance behavior (Rudisill, 2013), reducing information fatigue (Cleofas & Oducado, 2021), and facilitating positive online discourse (Blanco & Lourenço, 2022). Howell and Shepperd (2016) finds optimism as a predictor of information avoidance.

Current research shows that how coping self-efficacy impacts information behavior in the contexts of health, psychology, and crisis. Health researchers identify coping self-efficacy is useful for assessment and monitoring of treatments (Sklar & Turner, 1999), for positive dietary behavior (Matthews et al., 2016; Schwarzer & Renner, 2000), and for reducing post-traumatic behavior (Cieslak et al., 2008). Luberto et al. (2014) and Midkiff et al. (2018) find coping self-efficacy impacts emotion control and mindfulness. In the case of crisis management, optimism reduces stress (Benight & Harper, 2002; Benight et al., 1999). Research also finds association between coping self-efficacy and health information avoidance (Howell & Shepperd, 2016; Hua & Howell, 2022).

## **2.5 Situational Motivation and Information Behavior**

Situational motivation originated from self-determination theory that posits that an individual's motivation and personality depend on their determination and growth tendencies (Deci & Ryan, 1985; Ryan et al., 1991). Situational motivation construct namely intrinsic motivation, identified regulation, and external regulation are being used to describe various information behaviors. Intrinsic motivation refers to the behavior that a person engaged in for their own sake of interest (Deci, 1971). Extrinsic motivation on the other hand goes beyond

one's inherent interest or satisfaction. According to the self-determination theory, extrinsic motivation has different levels in the self-determination continuum of human behavior. External regulation and identified regulation are two different levels of extrinsic motivation in the continuum from lower to higher self-determination (Deci, 1971; Guay et al., 2000). Externally regulated behaviors are beyond self-interest and occurs when there is external reward and/or there is a need to avoid negative consequences. Identified regulation is a more conscious behavior where the behavior is valued and chosen consciously by oneself (Guay et al., 2000). Extant literature identifies these motivations behind different behaviors in different contexts.

First, intrinsic motivation has been studied in the context of goal planning, use of technology, knowledge sharing behavior (Crow, 2009; David et al., 2007; de Almeida et al., 2016; Fagan et al., 2008; Hwang & Yi, 2002). According to David et al. (2007) intrinsic motivation moderates the relationship between self-efficacy and successful goal planning. Hwang and Yi (2002) suggests that intrinsic motivation such as enjoyment plays an important role in influencing the decision to use new technology. In another study by de Almeida et al. (2016) confirms that employees intrinsic motivation is an important factor in influencing tacit knowledge sharing behavior. Moreover, Crow (2009) finds that to foster certain behavior individuals intrinsic motivation needs to be triggered. However, in a study on the use of technology Fagan et al. (2008) finds a contradictory result that intrinsic motivation does not impact behavioral intention to use technology positively in an workplace.

Second, extant literature investigates identified regulation in the contexts of knowledge sharing, information search, and the use of technology (Gagné et al., 2019; Li et al., 2011; Stenius et al., 2017; von der Trenck et al., 2014; Wang & Hou, 2015). According to Wang and Hou (2015) identified regulation as an autonomy oriented motivation influence knowledge

sharing behavior positively. von der Trenck et al. (2014) finds that individuals identified regulation as a part of self-determination plays a significant role in behavioral intention such as information search. Confirming the findings of extant literature, Gagné et al. (2019) identify that individual's intrinsic motivation and identified regulation impact the behavior of IT usage. Also, Stenius et al. (2017) report that identified regulation as a form of autonomous motivation influences knowledge sharing intention that in turn results in knowledge sharing behavior. Moreover, in the context of technology use, Li et al. (2011) finds that identified regulation is the most important extrinsic motivation that impacts new technology use behavior.

Third, literature suggests that external regulation being part of the extrinsic motivation impacts different behavioral outcomes in the contexts of knowledge sharing and technology use (Gagné et al., 2019; Mitchell et al., 2012; Rahi et al., 2021; Rezvani et al., 2017; Zimmer et al., 2018). According to Rezvani et al. (2017) external regulation does not necessarily impact positive behavioral intention in a technology use context. People sometimes feel pressured because of the external regulation and as a result reject to do certain behavior. In a study by Gagné et al. (2019) report that external regulation to share knowledge influence employees to hide knowledge instead of share knowledge. Another study by Mitchell et al. (2012) finds that low external regulation results in spontaneous use of new technology. However, Rahi et al. (2021) finds a contradictory result that indicates individuals external regulation motivation impacts positive behavioral intension such as new technology adoption and use.

## **2.6 Expectation Violation and Information**

Originated in communications discipline, expectation violation theory discusses how the violation of social norms and expectation can impact individual's behavior. The earlier usage of this theory is in personal spaces research (Burgoon & Jones, 1976). The authors provide an

initial framework that focuses on the impact of personal space's proximity manipulation on communication outcomes. The model establishes personal space as a function of social norms and known idiosyncratic spacing pattern. In the model the effect of violation is defined by the amount of deviation from the expectation, the reward-punishment power of the initiator, and threat threshold of the reactant. The communication outcomes that the expectation violation can impact include amount of interaction, kinds of non-verbal messages used, credibility perception, task productivity, interpersonal attractions, and liking. The authors thus mention widescale application of the theory. A later study extends the initial model by deducing and testing causal relationships (Burgoon, 1978). The core findings of the research are when a communicator is coming up with reward and positive feedback then the violation will not lead to much negative communication outcome and when a communicator is coming up with punishment and negative feedback then the violation will lead to negative communication outcome. These results show expectation violation are impacted by a rational decision-making. Another study shows non-immediacy violations produce lower communication credibility rating (Burgoon & Hale, 1988).

Expectation violation theory is extensively used in relational communication discipline. In this field, first, extreme and highly salient violations are studied; second, a large number of research focuses on the negatively valenced behavior; third, violations are assumed to increase relational uncertainty states; and fourth, most evidences are descriptive (Afifi & Metts, 1998). Considering these limitations, Afifi and Metts (1998) propose expectation violation to be measured using expectedness, importance, and valence constructs. Violation expectedness is defined as the whether the relationship deviation is surprising for the violation recipient. Importance is referred to as the significance of the relationship for which a violation is experienced. Generally, violation valence is the hedonic construct that describes the negative

emotional outcomes such as betrayal, disrespect, and disregard for integrity. By combining the understanding from the communications and relationship disciplines, researchers also utilize this expectation violation theory in the contexts of information systems and media research. Table 3 summarizes the findings of expectation violation research.

**Table 3 Literature Summary of Expectation Violation**

Category	Author and Year	Context	Role of Expectation Violation	Key Finding
Communication	Afifi and Metts (1998)	Veracity judgement	Independent variable	Expectation violation has lesser impact on deception judgements.
	Campo et al. (2004)	Health communication	Independent variable	Positive expectation violation impacts behavior not attitude.
	Sidelinger (2014)	Student communication	Independent variable	Use of relevant humor in classroom maintains student satisfaction.
	Johnston et al. (2015)	Political judgement	Independent variable	Expectancy-violating emotions have negative impact on political campaign outcome.
	Graffin et al. (2016)	Impression management	Dependent variable	Leader's impression offsetting at the time of organization acquisition inhibits expectancy violation emotions.
	Gatchet et al. (2018)	Political communication	Independent variable	Expectancy violation predicts the impact of unexpected communication behavior.
	Rim et al. (2020)	Corporate social responsibility	Independent variable	Expectancy violation about corporate social responsibility campaigns lowers consumer's attitude towards the company.
	Yuan et al. (2019)	Health communication	Mediating variable	Expectancy violation significantly mediates the health messaging styles and child vaccination decision.
	Bullock and Hubner (2020)	Political communication	Independent variable	Politician's usage of informal language on social media leads to negative evaluation.
	Cho et al. (2021)	Sustainability communication	Independent variable	For both for-profit and non-profit organizations, violating behavior negatively impacts the evaluation towards the organization.

	Park et al. (2021)	Corporate social responsibility	Independent variable	Corporate credibility mediates the negative impact of expectancy violation.
<b>Information Science and Systems</b>	Fife et al. (2009)	Social media	Dependent variable	Social media related expectation violations include stalking, negative impressions, negative conversations, and excessive social comparison.
	Bevan et al. (2014)	Social media	Independent variable	Expectation violation in the form of expectedness, importance, and valence explains the unfriending behavior.
	Biancardi et al. (2017)	Virtual agent	Independent variable	Human judgement of interacting with a virtual agent is impacted by expectation violation.
	Claure and Jung (2018)	Human-computer interaction	Independent variable	Expectation violation may not impact the task experience but affect task completion.
	Rui and Stefanone (2018)	Social media	Dependent variable	Online impression management (a combination of self-esteem, subject, and publicness of image damaging behavior) reduces the impact of expectation violation.
	Lu and Yuan (2021)	Social media	Independent variable	During a disaster, messages that less violate user expectation are more likely to be shared on social networking sites.
	Kolo et al. (2022)	Automated Journalism	Independent variable	Trust and credibility mediate the relationship between expectation from artificial intelligence-based journalistic text and media consumption.
	Tomasi et al. (2021)	Social media	Dependent variable	User's personal characteristics, relational characteristics, social media engagement level, group characteristics, and group purpose impact the response to expectation violation.
	Finkel and Krämer (2022)	Human-computer interaction	Independent variable	Information credibility mediates the relationship between expectation on humanoid devices and reliance on technology.

	Tang (2022)	Social media	Independent variable	Expectation violation in terms of number of likes impacts mental health of the users.
<b>Media</b>	Shim and Moon (2015)	Government crisis	Independent variable	When people view news media as more favorable to the government, then expectation disconfirming messages are viewed as more impartial. On the other hand, when people view news media as less favorable to the government, then expectation confirming message are viewed as fairer.
	Walther-Martin (2015)	Politics	Independent variable	Expectation violation influences perceived humor and source evaluation.
	Waddell (2018)	Media automation	Mediating variable	Expectation violation mediates the relationship of machine authorship attribution and news credibility.
	Liu and Wei (2019)	Media automation	Independent variable	Media trust and perceived objectivity are impacted by expectation violation from news written by bots.
	Song (2019)	Media automation	Independent variable	Machine journalism is less trustworthy than human journalism. Trust, distrust, and credibility are strongly associated with fake news distribution.
	Hong et al. (2021)	Music automation	Moderator variable	Expectation violation moderates the relationship between acceptance of creative artificial intelligence and music's positive assessment.
	Jia (2020)	Media automation	Dependent variable	Reader's expectation on news do not meet in the case of human-written texts and meets in the case of artificial intelligence written texts.
	Tandoc Jr et al. (2020)	Media automation	Independent variable	There is no difference in perceived credibility among human, automated, or mixed written cases.
	Danzon-Chambraud (2021)	Media automation	Independent variable	The systematic review finds automated journalism needs more check and balances and

				higher attention needs to be given on non-English contexts.
	Hong (2021)	Media automation	Independent variable	Expectation violation from artificial intelligence-based journalism negatively impacts artificial intelligence-based news consumption.
	Wilhelm et al. (2021)	Online media	Independent variable	Non-fulfillment of mutual expectation between journalist and audience negatively affects their relationship.
	Heiselberg et al. (2022)	News Broadcast	Independent variable	Transparency and neutral tone in robot voice are critical components of automated news broadcast credibility.
<b>Relationship</b>	Biernat et al. (1999)	Group membership	Independent variable	Perceived expectation violation influences ingroup polarization.
	Bevan (2003)	Romance	Independent variable	Verbal form of sexual resistance is more impactful in relationship outcome than non-verbal form of sexual resistance.
	Miller-Ott and Kelly (2015)	Romance	Independent variable	Divided attention during dating because of cell phone usage is a critical expectation violation in romantic relationship.
	Wright and Roloff (2015)	Relational communication	Mediating variable	Expectation violation mediates the relationship between mind reading expectation and combating behavior in a romantic relationship.

## 2.7 Perceived Objectivity of Information Source

The construct perceived objectivity is one of the key components of news and information dissemination (Lee, 2020). Perceived objectivity is a norm to follow by the information disseminator and can be defined as neutrality, detachment, fairness, and unbiasedness (Mindich, 2000; Rosen, 1994; Ruigrok, 2008). Information providing entity needs to ensure that it does not serve any group or promote any point of view while informing the audience about a phenomenon (Christians et al., 2010). Thus, value-free, and fact-based reporting is expected from quality information provider. Perceived objectivity is investigated in



communication, media, and information systems contexts (Holbert & Grill, 2015). Table 4 provides a summary of perceived objectivity research.

**Table 4 Literature Summary of Perceived Objectivity**

Category	Author and Year	Context	Role of Perceived Objectivity	Key Finding
<b>Communication</b>	Zehr (2000)	Climate change	Independent variable	Perceived objectivity decreases controversy among the scientific communities.
	Seiter et al. (2010)	Debate	Dependent variable	Adding non-verbal agreement or disagreement expression in television debates increases perceived objectivity of the information presented.
	Sacco and Zhao (2014)	Online storytelling	Dependent variable	Format, author, and content impact perceived objectivity of the story, where format plays the biggest influence.
	Chavarro et al. (2018)	Scientific research	Independent variable	Perceived objectivity indicates higher content quality and higher reputation.
	Vacca (2019)	Healthcare	Independent variable	Perceived objectivity increases the chance of positive reception of health messages.
	Younis and Hassan (2019)	Religion	Dependent variable	Individual's belief influences perceived objectivity.
	Cologna et al. (2021)	Climate change	Dependent variable	Influencing person's open support to a cause decreases perceived objectivity of the cause.
	Mirny and Spiller (2021)	Marketing	Dependent variable	Prior exposure to information increases perceived objectivity of the marketing communication.
<b>Information Science and Systems</b>	Ware (2008)	Online publishing	Dependent variable	Assessment before publishing increases perceived objectivity of online published contents.
	Martin et al. (2014)	Online review	Dependent variable	Customer review containing less sentimental words attracts more perceived objectivity.
	Hair and Ozcan (2018)	Online review	Dependent variable	Use of profanity in online reviews reduces the usefulness and perceived objectivity of the review.

	Castelo et al. (2019)	Algorithm aversion	Independent variable	Increasing perceived objectivity of a task positively influence use of algorithmic tools for the task.
	Kolkman (2020)	Policy decision	Dependent variable	Algorithm's previous performance increases perceived objectivity of taking decisions based on automated tools.
	Portes et al. (2020)	Customer management	Mediating variable	Perceived objectivity mediates the relationship between digital brand transparency and brand engagement.
	Turel and Osatuyi (2021)	Social media	Independent variable	Perceived objectivity towards an information is positively associated with sharing intention of that information.
	Wu and Wen (2021)	Marketing	Independent variable	Customer's perceived objectivity about the automated creation of an advertisement increases the positive impression on artificial intelligence usage in content creation.
	Mourali and Drake (2022a)	Health crisis	Mediating variable	Perceived objectivity mediates the relationship between misinformation consumption and act upon health recommendation.
	Mourali and Drake (2022b)	Healthcare	Mediating variable	Perceived objectivity mediates the relationship between misinformation consumption and act upon health recommendation.
	Liveley (2022)	Artificial intelligence	Dependent variable	Lack of facts behind an automated content negatively influences perceived objectivity.
<b>Media</b>	Meeds et al. (2013)	Television news	Independent variable	Perceived objectivity increases the local news consumption through television of middle eastern expatriates.
	Andaleeb (2014)	Television news	Independent variable	Perceived objectivity increases the television news viewership.
	DeAndrea et al. (2015)	Online media	Independent variable	Perceived objectivity increases the positive impression of online news source.
	Mothes (2017)	News	Independent variable	Perceived objectivity increases the informational value of messages.
	Yao et al. (2017)	Sports news	Mediating variable	Perceived objectivity mediates the relationship between content quality and news receptivity in the context of artificial

			intelligence-based content writing.
Liu and Wei (2019)	Media automation	Dependent variable	Media trust and perceived objectivity are impacted by expectation violation from news written by bots.
Wu (2020)	Automated journalism	Dependent variable	Auto-written content's source and domain affects perceived objectivity.
Lee (2020)	Social media	Mediating variable	Perceived objectivity mediates the relationship between self-disclosure and information consumption.
Feick et al. (2021)	Media bias	Dependent variable	News' negative framing decreases perceived objectivity.

## 2.8 Trust in Information Source

Trust construct is another key component of news and information dissemination studies. Information credibility literature identifies two major characteristic of information sources: expertness and trustworthiness (Hovland et al., 1953). In earlier studies, trustworthiness is defined as impartiality (Hovland et al., 1953). Later, robust measurements are used to capture individual's trust in information source such as news media. Kohring and Matthes (2007) propose trust as the function of selectivity of topics (what type of information is being presented in the media), selectivity of facts (how much robust background and context are presented in the presented topics), accuracy or depictions (how much verifiable information are being presented in the reports), and journalistic assessment (how much journalistic due-diligence are being shown). Trust in information source is found to be widely used in traditional media (newspaper and television) and online media (online news and social media) research. Table 5 provides a summary of trust in information source research.

**Table 5 Literature Summary of Trust in Information Source**

<b>Category</b>	<b>Author and Year</b>	<b>Context</b>	<b>Role of Trust in Information Source</b>	<b>Key Finding</b>
<b>Media</b>	Jackob (2010)	Mass media	Independent variable	Level of mass media trust is positively related to media use.
	Holton et al. (2013)	User-generated content	Independent variable	Trust in content increase positive attitude and decreases negative attitude towards media.
	Cole and Greer (2013)	Brand journalism	Independent variable	Trust in brand communication increases message credibility and brand engagement.
	Matthes (2013)	Hostile media	Independent variable	Media trust and distrust are associated with political campaign perception.
	Moehler and Singh (2011)	Political news	Dependent variable	Private media need to be more democratic and need to employ more critical journalists to increase trust to compete with state-run media.
	Tsfati and Cohen (2012)	News media	Moderator variable	Individual's trust in media moderates the relationship between credibility and media influence.
	Karlsson et al. (2014)	Journalism	Dependent variable	Providing news source link increases the trust in news articles.
	Appelman and Sundar (2016)	Journalism	Dependent variable	Accuracy, authenticity, and believability explain trust in news media.
	Ardèvol-Abreu and Gil de Zúñiga (2017)	Media bias	Independent variable	Trust in citizen media predicts the use of news media.
	Karlsson et al. (2017)	Journalism	Independent variable	Media trust does not have a large influence on media's error correction behavior.
	Zheng et al. (2018)	Automated Journalism	Dependent variable	Quality of automated journalistic content influences the trust in algorithm-based journalism in both US and China.
	Kalogeropoulos et al. (2019)	News media	Dependent variable	Both mainstream media and alternative media use are highly correlated with trust in media from the evidence of 35 countries.
	Thurman et al. (2019)	Automated Journalism	Moderator variable	Trust moderates the relationship between prior media consumption and algorithm-based content use.

<b>Information Science and Systems</b>	Fawzi and Mothes (2020)	Political news	Dependent variable	Citizen's expectations, evaluations, and discrepancies impact trust in media.
	Skovsgaard and Andersen (2020)	News media	Independent variable	Intentional news avoidance is caused by lack of trust in media.
	Strömbäck et al. (2020)	High-choice media	Independent variable	Media trust impacts media use.
	Tsfati (2010)	Online news	Independent variable	Mistrust influences exposure to online news.
	Karlsson (2011)	Online news	Independent variable	Media trust is negatively associated to perceived ability to carry out journalistic functions.
	Armstrong and McAdams (2011)	Blogging	Dependent	Human judgement of interacting with a virtual agent is impacted by expectation violation.
	Quandt (2012)	Social network	Independent variable	Loss of trust in media poses a threat to democratic society.
	Konieczna and Robinson (2014)	News non-profit	Dependent variable	Network and community journalism influences trust in non-profit news organization.
	Ardèvol-Abreu and Gil de Zúñiga (2017)	Media bias	Independent variable	Trust in citizen media predicts the use of social media as a news source.
	Fletcher and Park (2017)	Online news	Independent variable	Individuals with lower level of media trust tend to consume information from alternative sources more.
	Enli and Rosenberg (2018)	Social media	Independent variable	Trust in information influences the perception about political communication.
	Zheng et al. (2018)	Automated Journalism	Dependent variable	Quality of automated journalistic content influences the trust in algorithm-based journalism in both US and China.
	Sterrett et al. (2019)	Social media	Independent variable	Trust is positively associated with information sharing.

## CHAPTER III: THEORETICAL MODELS AND METHODS

### 3.1 Online Information Avoidance in Health Crisis

#### 3.1.1 Fear and Online Information Avoidance

Fear, an emotional stimulus, can emerge from consuming negatively framed online information (Ahmad & Murad, 2020; Basch et al., 2020). Miles, et al. (2008) have argued that fear of acute diseases such as cancer is associated with increased information avoidance. In the healthcare context, Ajekigbe (1991), for instance, finds that individuals become reluctant to act upon health recommendations when there is higher chance of negative outcome from prescriptive tests. Moreover, Gullatte et al. (2010) shows individual's cancer fatalistic belief is positively associated with the avoidance of information. People with a higher fear of terminal disease are likely to undermine the importance of health information associated with lower response efficacy (Miles et al., 2008). This research posits these associations among fear, response efficacy, and health information avoidance will hold in the context of fear from online communication and online information avoidance during COVID-19. When online communication is framed negatively and increases fear, people will not see how the received information can tackle health complications.

Additionally, people will likely avoid fear-inducing online information to reduce psychological stress during a crisis. The information avoidance model of psychology shows that fear from received information is associated with a reduction in positive psychological factors such as optimism and coping self-efficacy (Sweeny et al., 2010). When information increases fear, people start facing challenges to lead a life with positivity and doubting the capacity to cope in adverse situations. Similarly, fear emerging from online communication will negatively

impact the optimism and coping self-efficacy during the COVID-19 pandemic. All these negative emotions lead to information avoidance behavior. Thus, we hypothesize:

***H1:** Individual's fear during pandemic is positively associated with individual's online information avoidance.*

### **3.1.2 Situational Motivation and Online Information Avoidance**

Situational motivation constructs, intrinsic motivation, identified regulation, and external regulation, are based on self-determination theory (Deci & Ryan, 1985; Ryan et al., 1991; Standage & Treasure, 2002). Self-determination theory posits that an individual's motivation and personality depend on their determination and growth tendencies. Two significant concepts of self-determination theory are self-determined motivation and non-self-determined motivation (Deci & Ryan, 1985). Self-determined motivation states that individuals engage in an activity when they realize the benefit of performing the task with their evaluation and are not forced to complete it. Non-self-determined motivation describes the opposite. Individuals engage less if they are forced to perform a task or cannot evaluate the benefit of independently performing the task. Moreover, self-determined motivation and non-self-determined motivation are related to positive psychological factors and ability. Intrinsic motivation and identified regulation constructs represent an individual's self-determined motivation, and external regulation construct represent an individual's non-self-determined motivation (Deci & Ryan, 1985).

Researches find that higher intrinsic motivation and identified regulation lead to lower information avoidance (Dubnjakovic, 2018; Wang, 2016). Sweeny et al. (2010) posit external regulation in the form of higher obligation to act increases information avoidance. Prior research shows intrinsic motivation and identified regulation are associated with more positive outcomes such as optimism and positive coping (Chesney et al., 2006; Guay et al., 2000; Moneta & Spada,

2009). A person with higher intrinsic motivation can enjoy carrying out a task or have a positive psychological state because they evaluate any situation with the lens of enjoyment and do not stress about any material outcome. A higher level of identified regulation means a person can better understand the importance of carrying a task from self-evaluation. A person with identified regulation is self-motivated to perform or have a positive psychological state because they know the task's material and objective importance. According to the information avoidance framework, when the information provides the positive stimulus and encourages a person to follow, then the information acquisition will be higher. If an online communication connects to a person's intrinsic motivation during a crisis such as COVID-19, the person will be optimistic, will have higher confidence on their ability to cope effectively and will be motivated to acquire information. Thus, we hypothesize:

***H2:** Individual's intrinsic motivation during pandemic is negatively associated with individual's online information avoidance.*

***H3:** Individual's identified regulation during pandemic is negatively associated with individual's online information avoidance.*

On the other hand, external regulation is associated with negative psychological outcomes (Guay et al., 2000). Individuals with higher external regulation are less engaged to carry a task because they are forced to do so (Sweeny et al., 2010). A higher level of external regulation contradicts a person's self-determination, so the person becomes demotivated. According to the information avoidance framework, when the information provides a negative stimulus or focuses more on what a person ought to follow, then the information avoidance will be higher (Sweeny et al., 2010). If online communication forces people to carry certain health



behavior, the person will have less optimism, have lesser confidence in their ability to cope effectively, and be demotivated to acquire information. Thus, we hypothesize:

*H4: Individual's external regulation during pandemic is positively associated with individual's Online Information Avoidance.*

### **3.1.3 Psychological Antecedents of Online Information Avoidance**

This research identifies response efficacy, optimism, and coping self-efficacy as an individual's psychological factors in a pandemic that can affect online information avoidance behavior from the prior information avoidance models. We build on prior research that has identified determinants of information avoidance. Case et. al., (2005), for instance, state that “Avoiding information is closely linked to feelings of anxiety and fear as well as other cognitive and emotional variable like perceptions...” (p. 359). The original formulation of Rogers (1975) protection motivation theory conceptualized fear appeals to initiate cognitive appraisal processes. Later, Maddux and Rogers (1983) in their revised theory of fear appeals note “Throughout the development of fear appeal theories, researchers and theorists have become increasingly aware of the importance of the role of cognitive mediational processes” (p. 470). Therefore, the influence of fear on response efficacy exists.

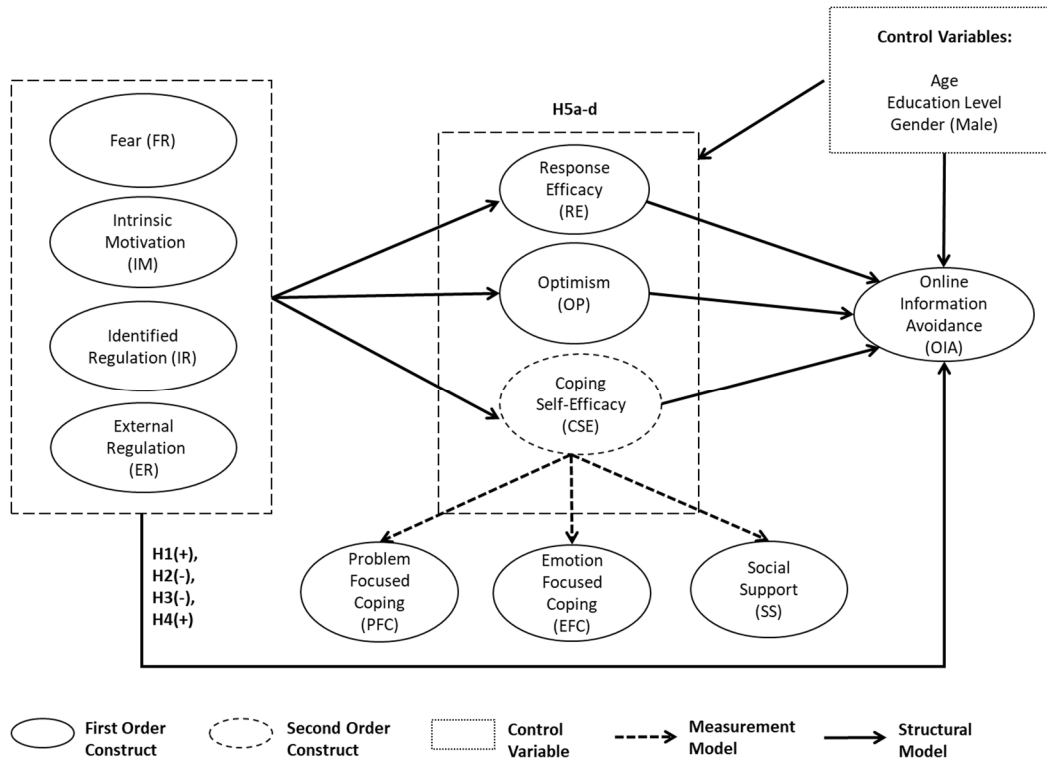
According to the health information avoidance theory in the context of cancer, people who evaluate the importance of health information positively and who have higher response efficacy are less likely to avoid health information (Miles et al., 2008). The information avoidance framework suggests that an individual's optimism is negatively associated with information avoidance behavior. The relationship between coping self-efficacy and information seeking or avoidance can be explained using adaptive coping strategies. Individual's self-efficacy is negatively associated with information avoidance behavior (Miles et al., 2008). That means

individual's high perception of their ability results in less information avoidance. According to (Johnson, 1997), an individual's information avoidance behavior is negatively associated with their perceived control over the situation. Howell and Shepperd (2016), state that coping self-efficacy is negatively correlated with information avoidance. Rippetoe and Rogers (1987), have specifically distinguished between two aspects of coping ability – self-efficacy and response efficacy. The findings from earlier closely related health and information avoidance research and the extant literature explain how an individual's psychological state such as response efficacy, optimism, and coping self-efficacy are associated with online information avoidance behavior during COVID-19 pandemic. When people feel that they received information and recommendation from online sources will lead to better health outcomes, they will be more likely to absorb it. Additionally, when people are optimistic and confident that they will cope with the pandemic, they will positively acquire more online information. Using these arguments alongside the discussions for H1 to H4, we hypothesize:

***H5: Individual's response efficacy, optimism, and coping self-efficacy during pandemic mediate the relationship between a) fear, b) intrinsic motivation, c) identified regulation, and d) external regulation with online information avoidance.***

Figure 3 shows our research model that combines the concepts from self-determination theory and information avoidance theories.

**Figure 3 Research Model of Online Information Avoidance in Health Crisis**



### 3.1.4 Sample Selection and Data Collection of Health Crisis

This explanatory study follows Malhotra and Grover (1998)'s guidelines for conducting a survey research. In line with the Hair et al. (2019) suggestions, this study analyzes the observations and tests the research hypotheses using partial least squares based structured equation modeling (PLS SEM). According to Hair et al. (2019), PLS SEM is suitable to use when the theoretical model is complex with first-order and second-order constructs and that model focuses on prediction perspective. In our study, as we are trying to establish fear and situational motivation as the antecedents of online information avoidance, using PLS SEM is more appropriate for us. After developing the instrument in Qualtrics, we pretest the questionnaire with eight business school doctoral students. They assessed the clarity of the questions and items. Based on the feedback, we modify the wording of a few questions. We used

Amazon Mechanical Turk (MTurk) platform because the platform helps us to collect data from multiple locations within the United States. Moreover, using MTurk in survey research has gained popularity because of the quality of the responses and the naiveness of the respondents (Chambers & Nimon, 2018). After finalizing the initial questionnaire, we ran a pilot study using MTurk. The pilot survey results were satisfactory. We then proceeded to the final data collection phase. In the first wave of data collection, we collected the data in June 2020, within three months of the pandemic declaration by the World Health Organization. We collect 375 responses from where 23 were removed as those do not pass either the attention or honesty check question. We used the attention check filter following Lowry et al. (2016). Finally, we had 352 usable responses for our analysis. We also examined the common method bias in the responses based on Harman's one-factor test (Fuller et al., 2016; Podsakoff, 2003). The first factor explains 36.80%, which is below the 50% threshold value. This confirms that none of the factors individually explains majority of the variance. In the second wave of data collection, we collected the data in June 2022, within three months of the COVID-19 mandate lifting. We collect 392 responses from where 19 were removed as those do not pass either the attention or honesty check question. We again used the attention check filter following Lowry et al. (2016). Finally, we had 373 usable responses for our analysis. We also examined the common method bias in the responses based on Harman's one-factor test (Fuller et al., 2016; Podsakoff, 2003). The first factor explains 36.80%, which is below the 50% threshold value. This confirms that none of the factors individually explains majority of the variance.

### **3.1.5 Operationalization of the Constructs of Health Crisis**

The survey instrument includes thirty-seven items for ten first-order constructs. We have three demographic questions regarding gender, age, and years of education. Fear, intrinsic

motivation, identified regulation, and external regulation are the four independent variables. The 8-item fear construct is modified from Champion et al. (2004). The three constructs of situational motivation are drawn from Guay et al. (2000) and Standage and Treasure (2002). Intrinsic motivation, identified regulation, and external regulation are measured using 4 items, 3 items, and 4 items, respectively. The three mediating variables in our model are response efficacy, optimism, and coping self-efficacy. The 3-item response efficacy is adapted from Lewis et al., 2009, and 3-item optimism is adapted from Scheier et al. (1994). Coping self-efficacy is drawn from Chesney et al. (2006). We measure coping self-efficacy as a reflective-reflective second order construct. The first order constructs for coping self-efficacy are: 1) problem-focused coping with 3 items, 2) emotion-focused coping with 3 items, and 3) social support with 2 items. The 4-item dependent variable online information avoidance is taken and modified from Howell and Shepperd (2016). We measure all the constructs using a seven-point scale (ranging from 1 strongly disagree to 7 strongly agree). The details of the items and questions are in Appendix A. The descriptive statistics of the survey respondents based on the control variables are given in Appendix B.

### **3.2 Online Information Avoidance in Humanitarian Crisis**

Afifi and Metts (1998) propose expectation violation to be measured using expectedness, importance, and valence constructs. Violation expectedness is defined as the whether the relationship deviation is surprising for the violation recipient. Importance is referred to as the significance of the relationship for which a violation is experienced. Generally, violation valence is the hedonic construct that describes the negative emotional outcomes such as betrayal, disrespect, and disregard for integrity. Perceived objectivity is a norm to follow by the information disseminator and can be defined as neutrality, detachment, fairness, and

unbiasedness (Mindich, 2000; Rosen, 1994; Ruigrok, 2008). Kohring and Matthes (2007) propose trust as the function of selectivity of topics (what type of information is being presented in the media), selectivity of facts (how much robust background and context are presented in the presented topics), accuracy or depictions (how much verifiable information are being presented in the reports), and journalistic assessment (how much journalistic due diligence are being shown). In this section, we present the theoretical model by discussing the hypothesized relationships between these constructs.

### **3.2.1 Expectedness and Online Information Avoidance**

Extant literature establishes what actions or approaches people expect from their information sources. When people are relying on traditional media transparency and neutral tone from the contents are expected, and the absence of those leads to lower credibility and lower news consumption (Heiselberg et al., 2022). The other expectations from information source include quality and timeliness (Wilhelm et al., 2021). In low stake contexts such as social media information and engagement, if people can judge how likely an expectation violation is occurring, then the avoidance or disengagement will occurs (Bevan et al., 2014). However, in high stake scenario such as politics, health, and crisis it is evident that expectation violation and its expectedness not always leads to avoidance. In the context of political communication where people expect to receive contradictory messaging, getting exposed to informal language impacts negative evaluation but people do not limit the consumption (Bullock & Hubner, 2020). When people are receiving health communication and they can anticipate the nature of information coming to them, they tend of increase the message evaluation (Yuan et al., 2019).

Lu and Yuan (2021) find during a disaster, messages that less violate user expectation are more likely to be shared on social networking sites. In the context of a government crisis (Shim

& Moon, 2015), when people view news media as more favorable to the government, then people evaluate the messages more critically and expectation disconfirming messages are viewed as more impartial. On the other hand, when people view news media as less favorable to the government, then expectation confirming message are viewed as fairer. In line with these research insights, we argue that during a humanitarian crisis such as war, people expect to see information that conforms with their worldview, and they also anticipate getting information from conflicting angles. During the uncertain phase of war, information users' high violation expectation indicates higher critical evaluation and higher engagement with information sources. Thus, we hypothesize—

***H1: Expectedness of violation from information source is negatively associated with online information avoidance in a crisis.***

Perceived objectivity of an information source indicates higher context quality and higher reputation (Chavarro et al., 2018). In critical political decision-making context, management of violation expectedness increases the perceived objectivity of the information presented (Seiter et al., 2010). Moreover, expectedness of violation such as not getting facts from content quickly impacts the objectivity assessment of the content (Liveley, 2022). In the context of crisis such as climate change, perceived objectivity of information source is influenced by people's evaluation about the information source (Cologna et al., 2021). We have found that violation expectedness provides us with understanding whether people are critically evaluating the information and information source (Afifi & Metts, 1998). Thus, expectedness influences objective assessment of information source. Also, in widespread crisis context, perceived objectivity influences the relationship between information consumption and action. On the other hand, trust in information source depicts the positive assessment about the source credibility (Cole & Greer,

2013). Moehler and Singh (2011) find people's expectedness assessment of democracy in political contents increase trust on state-run media. Moreover, Fawzi and Mothes (2020) show citizen's expectations, evaluations, and discrepancies impact trust in information provider. Crisis literature identifies individual's trust on information source is highly correlated with information consumption over both traditional and social media (Fletcher & Park, 2017; Skovsgaard & Andersen, 2020; Strömbäck et al., 2020). Thus, consistent with this evidence, we argue—

***H2:** The relationship between violation expectedness and online information avoidance in a crisis is mediated by a) perceived objectivity and b) trust in information source.*

### **3.2.2 Importance and Online Information Avoidance**

Extant literature establishes people evaluate the importance of using information sources in taking major decisions. People's assessment of importance of information sources can be manifested by various attitudes and emotions such satisfaction (Sidelinger, 2014) and positive evaluation (Bullock & Hubner, 2020). Bevan (2003) finds importance play a significant role in expectation violation and can lead to unfriending decision in social media. Media automation studies indicate how important it is for the information provider to recognize people's expectations. When some news is written by bots people lose connection with the story and mark those sources as unimportant. They effect of such importance violation is lesser interest on consuming such automated contents. Moreover, Hong et al. (2021) find importance violation reduces information consumption. Lu and Yuan (2021) find during a disaster, messages that users share news and engage with online information when they recognize the importance of it. In the context of a government crisis (Shim & Moon, 2015) people use information for importance decision such as judging about the commitment of the government and increase information consumption. In line with these findings, we theorize that during a humanitarian



crisis such as war, people recognize the importance of information, and the violation of importance leads to lower online information avoidance. During the uncertain phase of war, information users' high importance indicates higher positive evaluation and greater interaction with information sources. Thus, we hypothesize—

***H3:** Importance of information source is negatively associated with online information avoidance in a crisis.*

Perceived objectivity of an information source is a significant construct when people want to assess the importance of the source (Chavarro et al., 2018). Portes et al. (2020) identify for online communication perceived objectivity mediates the relationship between communication importance and engagement. In a crisis situation, Murali and Drake (2022a) and Murali and Drake (2022b) show the importance of information assessment and identifying misinformation and disinformation becomes crucial. The authors find the mediating role of perceived objectivity in increasing information consumption. On the other hand, Sterrett et al. (2019) report trust in information source is positively associated with information behavior. Authors such as Fletcher and Park (2017) and Skovsgaard and Andersen (2020) indicate trust plays a major role in motivating people to consume information and hinder information avoidance when information is extremely impactful in situations such as crisis. Thus, in the war context, we argue—

***H4:** The relationship between importance and online information avoidance in a crisis is mediated by a) perceived objectivity and b) trust in information source.*

### **3.2.3 Valence and Online Information Avoidance**

Both expectedness and importance show how rational assessment of information source plays role in subsequent information behavior. However, valence is the hedonic and emotional

assessment of an information source. Earlier studies on expectation violation and valence can be found in personal relationship discipline. Valence plays a negative role in continuation of relationship (Miller-Ott & Kelly, 2015). Biernat et al. (1999) and Bevan (2003) indicate emotional violation of relationship expectations leads to relationship distancing. These results also hold in information and media studies.

In line with these research insights, we argue that during a humanitarian crisis such as war, people expect to see information that conforms with their worldview, and they also anticipate getting information from conflicting angels. During the uncertain phase of war, information users' high violation expectation indicates higher critical evaluation and higher engagement with information sources. Thus, we hypothesize—

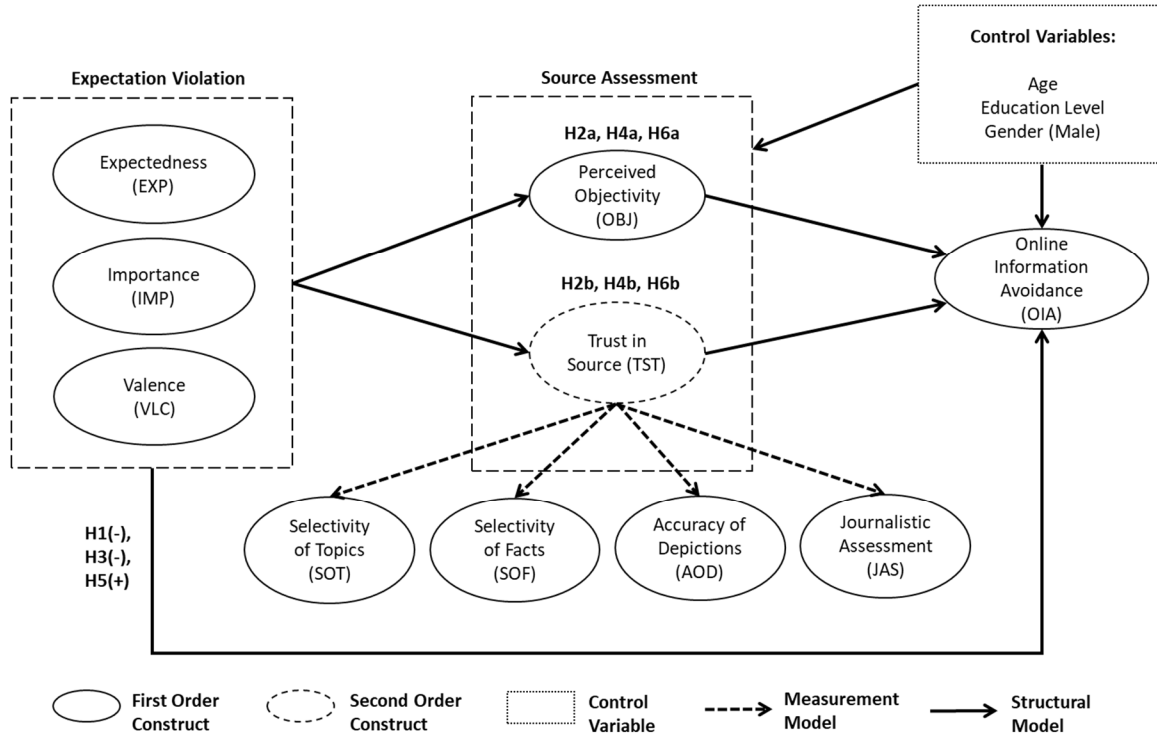
***H5: Valence of violation from information source is positively associated with online information avoidance in a crisis.***

Wright and Roloff (2015) find the it is important to assess the credibility and to signal trustworthiness for maintaining valence and continuous relationship. Lee (2020) finds valence via self-disclosure and information consumption are mediated by perceived objectivity. Moreover, Yao et al. (2017) identify receptivity is connected to content use and that connection is influenced by objectivity of the content. On the other hand, Enli and Rosenberg (2018) present trust is an important concept that impacts perception about information and information use. We argue in a crisis these relationships will hold and thus—

***H6: The relationship between violation valence and online information avoidance in a crisis is mediated by a) perceived objectivity and b) trust in information source.***

By combining the hypothesized relationships, we propose Figure 4 as the research model.

**Figure 4 Research Model of Online Information Avoidance in Crisis**



### 3.2.4 Sample Selection and Data Collection of Humanitarian Crisis

This explanatory study follows Malhotra and Grover (1998)'s guidelines for conducting a survey research. In line with the Hair et al. (2019) suggestions, this study analyzes the observations and tests the research hypotheses using partial least squares based structured equation modeling (PLS SEM). According to Hair et al. (2019), PLS SEM is suitable to use when the theoretical model is complex with first-order and second-order constructs and that model focuses on prediction perspective. In our study, as we are trying to establish expectation violation as the antecedent of online information avoidance, using PLS SEM is more appropriate for us. After developing the instrument in Qualtrics, we pretest the questionnaire with eight business school doctoral students. They assessed the clarity of the questions and items. Based on the feedback, we modify the wording of a few questions. We used Prolific platform for the data collection because the platform helps us to collect data from Poland and the United States.

Moreover, using Prolific in survey research has gained popularity because of the quality of the responses and the naiveness of the respondents (Palan & Schitter, 2018). After finalizing the initial questionnaire, we ran a pilot study using Prolific. The pilot survey results were satisfactory. We then proceeded to the final data collection phase. We collect 341 from Poland and 315 from USA. We removed 31 responses from Poland and 30 responses from the US as those do not pass either the attention or honesty check question. We used the attention check filter following Lowry et al. (2016). Finally, we had 310 usable responses from Poland and 285 responses from the US for our analysis. We also examined the common method bias in the responses based on Harman's one-factor test (Fuller et al., 2016; Podsakoff, 2003). For Poland data, the first factor explains 17.97%, which is below the 50% threshold value. For USA data, the first factor explains 26.61%, which is below the 50% threshold value. For combined data, the first factor explains 21.92%, which is below the 50%. This confirms that none of the factors individually explains majority of the variance.

### **3.2.5 Operationalization of the Constructs of Humanitarian Crisis**

The survey instrument includes thirty-two items for ten first-order constructs. We have three demographic questions regarding gender, age, and years of education. Violation expectedness, importance, and valence are the three independent variables. These three independent variables are drawn and modified from the expectation violation theory (Afifi & Metts, 1998; Telford, 2016). Violation expectedness, importance, and valence are measured using 3 items, 4 items, and 4 items, respectively. The two mediating variables in our model are perceived objectivity and trust. Four 7-point Likert scales with bipolar adjectives (i.e., objective—subjective, neutral—not neutral, unbiased—biased, separating facts and opinions—not separating facts and opinions) were taken and adapted from Lee (2020). Trust is drawn from

Kohring and Matthes (2007). We measure trust as a reflective-reflective second order construct. The first order constructs for trust are: 1) selectivity of topics with 3 items, 2) selectivity of facts with 3 items, 3) accuracy of depiction with 3 items, and 4) journalistic assessment with 2 items. The 6-item dependent variable online information avoidance is taken and modified from Howell and Shepperd (2016). We measure all the constructs using a seven-point scale (ranging from 1 strongly disagree to 7 strongly agree). The details of the items and questions are in Appendix C. The descriptive statistics of the survey respondents based on the control variables are given in Appendix D.

## CHAPTER IV: DATA ANALYSIS AND RESULTS

### 4.1 Analysis of Health Crisis Model

#### 4.1.1 Measurement Model of Summer 2020 Wave

We analyze the measurement model to assess the construct reliability, convergent validity, indicator reliability, and discriminant validity of the constructs' items. All the first-order constructs in the model are assessed reflectively. Table 6, 7, and 8 show the measurement model results.

**Table 6 Descriptive Statistics, Correlation, and Average Variance Extracted (Summer 2020 Wave)**

Constructs	Mean	SD	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
<b>FR</b>	4.539	1.540	<b>0.846</b>									
<b>IM</b>	4.783	1.385	0.565	<b>0.859</b>								
<b>IR</b>	5.427	1.106	0.312	0.385	<b>0.844</b>							
<b>ER</b>	4.511	1.633	0.770	0.642	0.369	<b>0.869</b>						
<b>RE</b>	5.404	1.133	0.203	0.354	0.654	0.278	<b>0.862</b>					
<b>OP</b>	3.563	1.660	0.741	0.477	0.146	0.678	0.105	<b>0.906</b>				
<b>PFC</b>	5.111	1.112	0.191	0.432	0.335	0.259	0.393	0.202	<b>0.814</b>			
<b>EFC</b>	5.109	1.199	0.107	0.310	0.154	0.160	0.291	0.204	0.575	<b>0.835</b>		
<b>SS</b>	5.129	1.313	0.261	0.376	0.345	0.286	0.397	0.231	0.536	0.545	<b>0.894</b>	
<b>OIA</b>	4.069	1.780	0.667	0.486	0.020	0.653	0.051	0.734	0.171	0.248	0.224	<b>0.898</b>

*Notes:* SD = Standard Deviation; Diagonal elements are square root of average variance extracted (AVE) and off-diagonal elements are correlations; FR = Fear; IM = Intrinsic Motivation; IR = Identified Regulation; ER = External Regulation; RE = Response Efficacy; OP = Optimism; PFC = Problem Focused Coping; EFC = Emotion Focused Coping; SS = Social Support; OIA = Online Information Avoidance.

Construct reliability is tested using the composite reliability (CR) and our desired cut-off value is 0.70. From Table 7, we can see that for each of the constructs the CR is more than the cut-off value. This shows the constructs are appropriate and internally consistent (Henseler et al.,

2009; Straub, 1989). The average variance extracted (AVE) is used to identify the convergent validity, and our desired cut-off value is 0.50. Table 1 shows that for each of the constructs the AVE is more than the cut-off value. This establishes the convergent validity of the measurement model (Fornell & Larcker, 1981; Hair et al., 2012). According to (Churchill, 1979), the item loading should be higher than 0.70 to achieve item reliability. From Table 7 we find that all item loadings are more than the desired value. Thus, the reliability of the items is satisfied.

**Table 7 Loadings and Cross Loadings of Items (Summer 2020 Wave)**

Constructs	Items	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
Fear (FR) CR = 0.953	FR1	<b>0.787</b>	0.487	0.389	0.602	0.333	-0.507	0.240	0.072	0.260	0.392
	FR2	<b>0.838</b>	0.414	0.346	0.612	0.264	-0.579	0.170	0.070	0.215	0.458
	FR3	<b>0.842</b>	0.507	0.248	0.644	0.201	-0.636	0.223	0.144	0.274	0.529
	FR4	<b>0.847</b>	0.475	0.176	0.630	0.068	-0.678	0.094	-0.010	0.153	0.598
	FR5	<b>0.853</b>	0.484	0.220	0.704	0.111	-0.685	0.168	0.177	0.266	0.696
	FR6	<b>0.845</b>	0.514	0.186	0.705	0.063	-0.690	0.147	0.141	0.210	0.722
	FR7	<b>0.868</b>	0.469	0.289	0.629	0.199	-0.607	0.147	0.063	0.180	0.507
	FR8	<b>0.883</b>	0.462	0.311	0.660	0.204	-0.590	0.115	0.040	0.205	0.525
Intrinsic Motivation (IM) CR = 0.849	IM1	0.449	<b>0.849</b>	0.298	0.502	0.263	-0.402	0.402	0.249	0.340	0.395
Identified Regulation (IR) CR = 0.881	IR1	0.283	0.309	<b>0.860</b>	0.326	0.547	-0.146	0.293	0.128	0.324	-0.023
	IR2	0.316	0.409	<b>0.832</b>	0.361	0.556	-0.149	0.271	0.142	0.286	0.043
	IR4	0.188	0.256	<b>0.839</b>	0.245	0.554	-0.072	0.283	0.119	0.262	-0.074
External Regulation (ER) CR = 0.925	ER1	0.667	0.567	0.361	<b>0.881</b>	0.332	-0.588	0.243	0.176	0.275	0.521
	ER2	0.639	0.547	0.367	<b>0.875</b>	0.282	-0.522	0.213	0.095	0.214	0.492
	ER3	0.710	0.574	0.180	<b>0.854</b>	0.111	-0.653	0.197	0.135	0.253	0.711
	ER4	0.650	0.539	0.396	<b>0.865</b>	0.258	-0.579	0.250	0.145	0.247	0.521
Response Efficacy (RE) CR = 0.896	RE1	0.175	0.408	0.526	0.267	<b>0.850</b>	-0.096	0.400	0.254	0.362	-0.005
	RE2	0.160	0.204	0.573	0.227	<b>0.845</b>	-0.076	0.297	0.226	0.318	-0.073
	RE3	0.190	0.304	0.590	0.226	<b>0.888</b>	-0.099	0.320	0.270	0.347	-0.054
Optimism (OP) CR = 0.932	OP2	-0.692	-0.470	-0.153	-0.640	-0.104	<b>0.908</b>	-0.209	-0.222	-0.244	-0.691
	OP4	-0.656	-0.427	-0.144	-0.608	-0.122	<b>0.902</b>	-0.171	-0.141	-0.208	-0.630
	OP5	-0.667	-0.399	-0.097	-0.595	-0.059	<b>0.909</b>	-0.167	-0.188	-0.175	-0.671
	PFC1	0.217	0.450	0.272	0.267	0.333	-0.185	<b>0.804</b>	0.469	0.426	0.213

Problem Focused Coping (PFC)	PFC2	0.080	0.257	0.273	0.155	0.349	-0.130	<b>0.830</b>	0.458	0.481	0.082
			0.350								
	PFC5	0.171		0.273	0.213	0.275	-0.179	<b>0.808</b>	0.478	0.399	0.125
CR = 0.855											
Emotion Focused Coping (EFC)	EFC1	0.126	0.309	0.187	0.185	0.281	-0.214	0.482	<b>0.826</b>	0.534	0.187
	EFC3	0.082	0.226	0.071	0.102	0.189	-0.173	0.481	<b>0.840</b>	0.414	0.220
	EFC4	0.059	0.240	0.123	0.111	0.255	-0.121	0.477	<b>0.839</b>	0.413	0.215
CR = 0.874											
Social Support (SS)	SS1	0.271	0.395	0.299	0.280	0.320	-0.267	0.484	0.491	<b>0.896</b>	0.275
	SS2	0.195	0.277	0.318	0.231	0.390	-0.146	0.474	0.484	<b>0.893</b>	0.124
CR = 0.889											
Online Information Avoidance (OIA)	OIA1	0.597	0.485	-0.045	0.607	-0.046	-0.652	0.169	0.223	0.174	<b>0.911</b>
	OIA2	0.614	0.475	0.019	0.619	0.003	-0.695	0.193	0.291	0.255	<b>0.919</b>
	OIA4	0.621	0.431	-0.018	0.597	-0.055	-0.695	0.136	0.217	0.202	<b>0.910</b>
	OIA6	0.562	0.346	-0.033	0.518	-0.097	-0.586	0.112	0.150	0.170	<b>0.849</b>
CR = 0.943											

*Note:* CR = Composite Reliability

To examine the construct's discriminant validity, we use Fornell-Larcker criteria, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al. (2015). The correlation between constructs and the square root of AVE (from Table 6) shows the square root of AVE of each construct (diagonal elements) is more than the correlations between the constructs. This satisfies the first criterion for discriminant validity (Fornell & Larcker, 1981). We also need to check that each construct's loadings are greater than the cross-loadings as the second criterion for discriminant validity (Chin, 1998). From Table 7, we can see that the loadings (in bold) are greater than the cross-loadings in the respective columns. Lastly, Table 8 shows all the HTMT are below the threshold of 0.90. Therefore, the discriminant validity of the constructs is established. From these analyses, we identify that the constructs are fit to be used in testing the structural model.



**Table 8 Heterotrait-Monotrait (HTMT) Ratio (Summer 2020 Wave)**

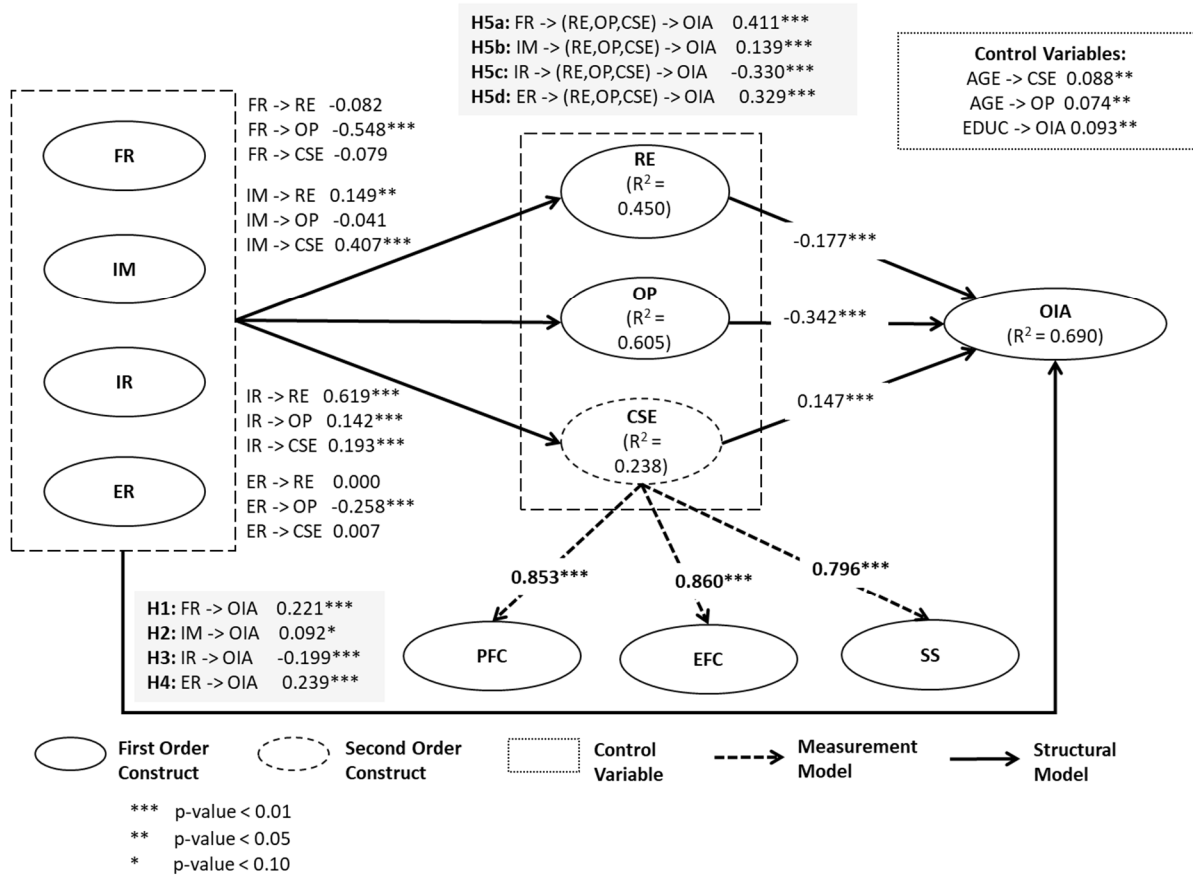
	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
<b>FR</b>										
<b>IM</b>	0.721									
<b>IR</b>	0.368	0.534								
<b>ER</b>	0.832	0.842	0.444							
<b>RE</b>	0.242	0.484	0.805	0.330						
<b>OP</b>	0.801	0.628	0.172	0.755	0.122					
<b>PFC</b>	0.232	0.626	0.434	0.320	0.501	0.248				
<b>EFC</b>	0.129	0.434	0.193	0.188	0.360	0.241	0.753			
<b>SS</b>	0.310	0.541	0.446	0.348	0.505	0.282	0.715	0.708		
<b>OIA</b>	0.702	0.627	0.072	0.711	0.085	0.808	0.206	0.290	0.267	

**Note:** FR = Fear, IM = Intrinsic Motivation, IR = Identified Regulation, ER = External Regulation, RE = Response Efficacy, OP = Optimism, PFC = Problem Focused Coping, EFC = Emotion Focused Coping, SS = Social Support, OIA = Online Information Avoidance

#### 4.1.2 Structural Model of Summer 2020 Wave

We test the multicollinearity of all constructs before assessing the structural model. For that we use Variance Inflation Factor (VIF). Our results show all the construct VIFs are close to or lower than 3, meaning the absence of multicollinearity among the variables (Hair et al., 2019). The structural model results are presented in Figure 5. The statistical significance level of path coefficients were performed using bootstrapping with 5000 resamples.

**Figure 5 Path Co-efficients with Bootstrapping Result (Summer 2020 Wave)**



Our model explains 45% of the variation in response efficacy. We found the association between intrinsic motivation and response efficacy ( $\hat{\beta}=0.149$ ; p-value<0.05), as well as identified regulation and response efficacy ( $\hat{\beta}=0.619$ ; p-value<0.01) to be statistically significant. Our model explains 60.5% of the variation in optimism. We found the associations from fear to optimism ( $\hat{\beta}=-0.548$ ; p-value <0.01), identified regulation to optimism ( $\hat{\beta}=0.142$ ; p-value <0.01) and external regulation to optimism ( $\hat{\beta}=-0.258$ ; p-value <0.01) are statistically significant. Our model explains 23.8% of the variation in coping self-efficacy. We have found the associations from intrinsic motivation to coping self-efficacy ( $\hat{\beta}=0.407$ ; p-value <0.01) and identified regulation to coping self-efficacy ( $\hat{\beta}=0.193$ ; p-value <0.01) are statistically significant.

Moreover, our model explains 69% of the variation in online information avoidance. We hypothesize fear and external regulation are positively associated with online information avoidance, and intrinsic motivation and identified regulation are negatively associated with online information avoidance. We found the associations from fear to online information avoidance ( $\hat{\beta}=0.221$ ; p-value <0.01), external regulation to online information avoidance ( $\hat{\beta}=0.239$ ; p-value <0.01) and identified regulation to online information avoidance ( $\hat{\beta}=-0.199$ ; p-value <0.01) as statistically significant. We also found the association between intrinsic motivation and online information avoidance ( $\hat{\beta}=0.092$ ; p-value <0.10) as statistically significant, however the path direction is opposite to what we hypothesize. Moreover, we found the associations from response efficacy to online information avoidance ( $\hat{\beta}=-0.177$ ; p-value <0.01), and optimism to online information avoidance ( $\hat{\beta}=-0.342$ ; p-value <0.01) are statistically significant. The association between coping self-efficacy and online information avoidance ( $\hat{\beta}=0.147$ ; p-value <0.01) is statistically significant, but the path direction is opposite to theoretical prediction. By analyzing the total effects when mediated by response efficacy, optimism, and coping self-efficacy, we can see the relationship between fear and online information avoidance becomes 0.411 (p-value <0.01), the relationship between intrinsic motivation and online information avoidance becomes 0.139 (p-value <0.01), the relationship between identified regulation and online information avoidance becomes -0.330 (p-value <0.01), and relationship between external regulation and online information avoidance becomes 0.329 (p-value <0.01). All these total effect relationships are stronger than the respective direct effect relationship with stronger statistical significance, thus, supporting our mediation hypothesis.

Table 9 summarize the supported hypotheses with direct and total effects. The results allow us to conclude that the most important driver for online information avoidance is external regulation, and an important inhibitor is identified regulation.

**Table 9 Bootstrapping Result for Structural Model (Summer 2020 Wave)**

#	Path	Hypothesis	Direct effect	Total effect	Conclusion
H1	Fear → Online Information Avoidance	Positive	0.221**	-	Supported
H2	Intrinsic Motivation → Online Information Avoidance	Negative	0.092*	-	Not Supported
H3	Identified Regulation → Online Information Avoidance	Negative	-0.199***	-	Supported
H4	External Regulation → Online Information Avoidance	Positive	0.239***	-	Supported
H5a	Fear → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.411***</b>	Supported
H5b	Intrinsic Motivation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.139***</b>	Supported
H5c	Identified Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>-0.330***</b>	Supported
H5d	External Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.329***</b>	Supported

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

We also conducted the mediation mechanism analysis to check the significant mediation effect of response efficacy, optimism, and coping self-efficacy between the association of fear, intrinsic motivation, identified regulation, and external regulation towards online information avoidance (see Table 10). Our results suggest partial mediation of response efficacy between identified regulation and online information avoidance. Our results also suggest partial mediation of optimism between fear and online information avoidance, intrinsic motivation and online information avoidance, and identified regulation and online information avoidance. Moreover, we find partial mediation of coping self-efficacy between intrinsic motivation and online information avoidance.

**Table 10 Summary of Mediation Mechanism Analysis (Summer 2020 Wave)**

Path	Indirect effect	Direct effect	Interpretation
Fear → Response Efficacy → Online Information Avoidance	0.015	0.221**	Direct only (no mediation)
Fear → Optimism → Online Information Avoidance	0.188***	0.221**	Complementary (partial mediation)
Fear → Coping Self-Efficacy → Online Information Avoidance	-0.012	0.221**	Direct only (no mediation)
Intrinsic Motivation → Response Efficacy → Online Information Avoidance	-0.027*	0.092*	Complementary (partial mediation)
Intrinsic Motivation → Optimism → Online Information Avoidance	0.017	0.092*	Direct only (no mediation)
Intrinsic Motivation → Coping Self-Efficacy → Online Information Avoidance	0.060***	0.092*	Complementary (partial mediation)
Identified Regulation → Response Efficacy → Online Information Avoidance	-0.110***	-0.199***	Complementary (partial mediation)
Identified Regulation → Optimism → Online Information Avoidance	-0.049**	-0.199***	Complementary (partial mediation)

Identified Regulation → Coping Self-Efficacy → Online Information Avoidance	0.028*	-0.199***	Complementary (partial mediation)
External Regulation → Response Efficacy → Online Information Avoidance	0.000	0.239***	Direct only (no mediation)
External Regulation → Optimism → Online Information Avoidance	0.088**	0.239***	Complementary (partial mediation)
External Regulation → Coping Self-Efficacy → Online Information Avoidance	0.001	0.239***	Direct only (no mediation)

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

#### 4.1.3 Measurement Model of Summer 2022 Wave

We analyze the measurement model to assess the construct reliability, convergent validity, indicator reliability, and discriminant validity of the constructs' items. All the first-order constructs in the model are assessed reflectively. Table 11, 12, and 13 show the measurement model results.

**Table 11 Descriptive Statistics, Correlation, and Average Variance Extracted (Summer 2022 Wave)**

Constructs	Mean	SD	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
<b>FR</b>	3.456	1.650	<b>0.869</b>									
<b>IM</b>	3.882	1.471	0.294	<b>0.841</b>								
<b>IR</b>	5.369	1.423	0.278	0.558	<b>0.909</b>							
<b>ER</b>	3.177	1.610	0.379	0.356	0.275	<b>0.856</b>						
<b>RE</b>	5.216	1.288	0.199	0.374	0.638	0.119	<b>0.926</b>					
<b>OP</b>	4.587	1.628	0.484	0.066	0.030	0.272	0.091	<b>0.916</b>				
<b>PFC</b>	4.711	1.239	0.044	0.247	0.252	0.074	0.228	0.127	<b>0.828</b>			
<b>EFC</b>	4.426	1.655	0.335	0.057	0.065	0.141	0.096	0.177	0.416	<b>0.917</b>		
<b>SS</b>	4.604	1.601	0.099	0.096	0.164	0.030	0.262	0.275	0.439	0.481	<b>0.936</b>	
<b>OIA</b>	2.464	1.357	0.063	0.249	0.504	0.054	0.375	0.222	0.141	0.046	0.003	<b>0.828</b>

**Notes:** SD = Standard Deviation; Diagonal elements are square root of average variance extracted (AVE) and off-diagonal elements are correlations; FR = Fear; IM = Intrinsic Motivation; IR = Identified Regulation; ER = External Regulation; RE = Response Efficacy; OP = Optimism; PFC = Problem Focused Coping; EFC = Emotion Focused Coping; SS = Social Support; OIA = Online Information Avoidance.

Construct reliability is tested using the composite reliability (CR) and our desired cut-off value is 0.70. From Table 12, we can see that for each of the constructs the CR is more than the cut-off value. This shows the constructs are appropriate and internally consistent (Henseler et al., 2009; Straub, 1989). The average variance extracted (AVE) is used to identify the convergent validity, and our desired cut-off value is 0.50. Table 11 shows that for each of the constructs the AVE is more than the cut-off value. This establishes the convergent validity of the measurement model (Fornell & Larcker, 1981; Hair et al., 2012). According to (Churchill, 1979), the item loading should be higher than 0.70 to achieve item reliability. From Table 12 we find that all item loadings are more than the desired value. Thus, the reliability of the items is satisfied.

**Table 12 Loadings and Cross Loadings of Items (Summer 2022 Wave)**

Constructs	Items	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
Fear (FR) CR = 0.961	FR1	<b>0.838</b>	0.304	0.359	0.260	0.299	-0.337	-0.021	-0.255	-0.046	-0.089
	FR2	<b>0.894</b>	0.331	0.336	0.286	0.284	-0.366	-0.010	-0.276	-0.042	-0.042
	FR3	<b>0.871</b>	0.239	0.250	0.388	0.163	-0.446	0.006	-0.285	-0.117	0.059
	FR4	<b>0.863</b>	0.203	0.187	0.359	0.119	-0.476	-0.052	-0.350	-0.153	0.065
	FR5	<b>0.834</b>	0.185	0.146	0.314	0.075	-0.428	-0.063	-0.278	-0.098	0.148
	FR6	<b>0.809</b>	0.185	0.093	0.376	0.052	-0.458	-0.069	-0.259	-0.058	0.222
	FR7	<b>0.911</b>	0.303	0.305	0.299	0.212	-0.393	-0.033	-0.313	-0.078	0.015
	FR8	<b>0.929</b>	0.308	0.280	0.334	0.202	-0.443	-0.057	-0.302	-0.082	0.035
Intrinsic Motivation (IM) CR = 0.828	IM1	0.218	<b>0.836</b>	0.432	0.198	0.258	-0.056	0.221	-0.002	0.076	-0.272
	IM4	0.276	<b>0.845</b>	0.506	0.398	0.368	-0.056	0.195	-0.093	0.085	-0.148
Identified Regulation (IR)	IR1	0.265	0.490	<b>0.922</b>	0.276	0.532	0.046	0.226	-0.083	0.130	-0.432
	IR2	0.270	0.547	<b>0.908</b>	0.320	0.582	-0.009	0.225	-0.042	0.154	-0.432
	IR4	0.227	0.487	<b>0.899</b>	0.165	0.619	0.043	0.236	-0.053	0.161	-0.504

CR = 0.935											
External	ER1	0.272	0.353	0.260	<b>0.841</b>	0.121	-0.223	0.010	-0.109	0.025	0.018
Regulation	ER2	0.304	0.396	0.366	<b>0.880</b>	0.208	-0.175	0.119	-0.137	0.058	-0.062
(ER)	ER3	0.341	0.169	0.034	<b>0.803</b>	-0.043	-0.295	0.026	-0.069	-0.029	0.197
CR = 0.916	ER4	0.370	0.325	0.316	<b>0.898</b>	0.148	-0.222	0.107	-0.172	0.059	0.001
Response	RE1	0.170	0.359	0.537	0.119	<b>0.913</b>	0.087	0.232	0.110	0.253	-0.284
Efficacy (RE)	RE2	0.194	0.330	0.610	0.097	<b>0.930</b>	0.061	0.219	0.073	0.204	-0.349
CR = 0.947	RE3	0.186	0.351	0.618	0.116	<b>0.933</b>	0.105	0.188	0.086	0.270	-0.398
Optimism	OP2	-0.483	-0.092	0.039	-0.297	0.056	<b>0.897</b>	0.127	0.157	0.213	-0.241
(OP)	OP4	-0.414	-0.047	0.016	-0.242	0.105	<b>0.927</b>	0.100	0.165	0.266	-0.225
CR = 0.940	OP5	-0.426	-0.038	0.025	-0.199	0.094	<b>0.923</b>	0.119	0.165	0.283	-0.136
Problem	PFC1	-0.047	0.223	0.149	0.104	0.103	0.096	<b>0.848</b>	0.358	0.341	-0.054
Focused	PFC2	0.037	0.262	0.256	0.109	0.210	0.082	<b>0.838</b>	0.237	0.313	-0.151
Coping (PFC)	PFC5	-0.087	0.139	0.225	-0.019	0.252	0.132	<b>0.798</b>	0.419	0.425	-0.147
CR = 0.868											
Emotion	EFC1	-0.274	-0.026	-0.040	-0.076	0.065	0.129	0.355	<b>0.890</b>	0.397	0.068
Focused	EFC3	-0.339	-0.061	-0.048	-0.157	0.114	0.186	0.408	<b>0.940</b>	0.489	0.026
Coping (EFC)	EFC4	-0.307	-0.068	-0.090	-0.150	0.082	0.169	0.379	<b>0.921</b>	0.433	0.036
CR = 0.941											
Social	SS1	-0.112	0.068	0.134	0.046	0.240	0.242	0.424	0.458	<b>0.938</b>	0.005
Support (SS)	SS2	-0.073	0.112	0.174	0.010	0.250	0.274	0.398	0.442	<b>0.934</b>	-0.011
CR = 0.934											
Online	OIA1	0.009	-0.230	-0.467	0.035	-0.347	-0.135	-0.108	0.031	-0.017	<b>0.863</b>
Information	OIA2	0.044	-0.259	-0.496	0.035	-0.372	-0.185	-0.170	0.020	-0.007	<b>0.880</b>
Avoidance	OIA4	0.083	-0.158	-0.372	0.065	-0.275	-0.256	-0.105	0.099	0.012	<b>0.821</b>
(OIA)	OIA6	0.084	-0.163	-0.305	0.048	-0.225	-0.167	-0.068	0.003	0.006	<b>0.740</b>
CR = 0.897											
<b>Note:</b> CR = Composite Reliability											

To examine the construct's discriminant validity, we use Fornell-Larcker criteria, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al. (2015). The correlation between constructs and the square root of AVE (from Table 11) shows the square root of AVE of each construct (diagonal elements) is more than the correlations between the constructs. This satisfies the first criterion for discriminant validity (Fornell & Larcker, 1981). We also need to check that each construct's loadings are greater than the cross-loadings as the second criterion for discriminant validity (Chin, 1998). From Table 12, we can see that the loadings (in bold) are



greater than the cross-loadings in the respective columns. Lastly, Table 13 shows all the HTMT are below the threshold of 0.90. Therefore, the discriminant validity of the constructs is established. From these analyses, we identify that the constructs are fit to be used in testing the structural model.

**Table 13 Heterotrait-Monotrait (HTMT) Ratio (Summer 2022 Wave)**

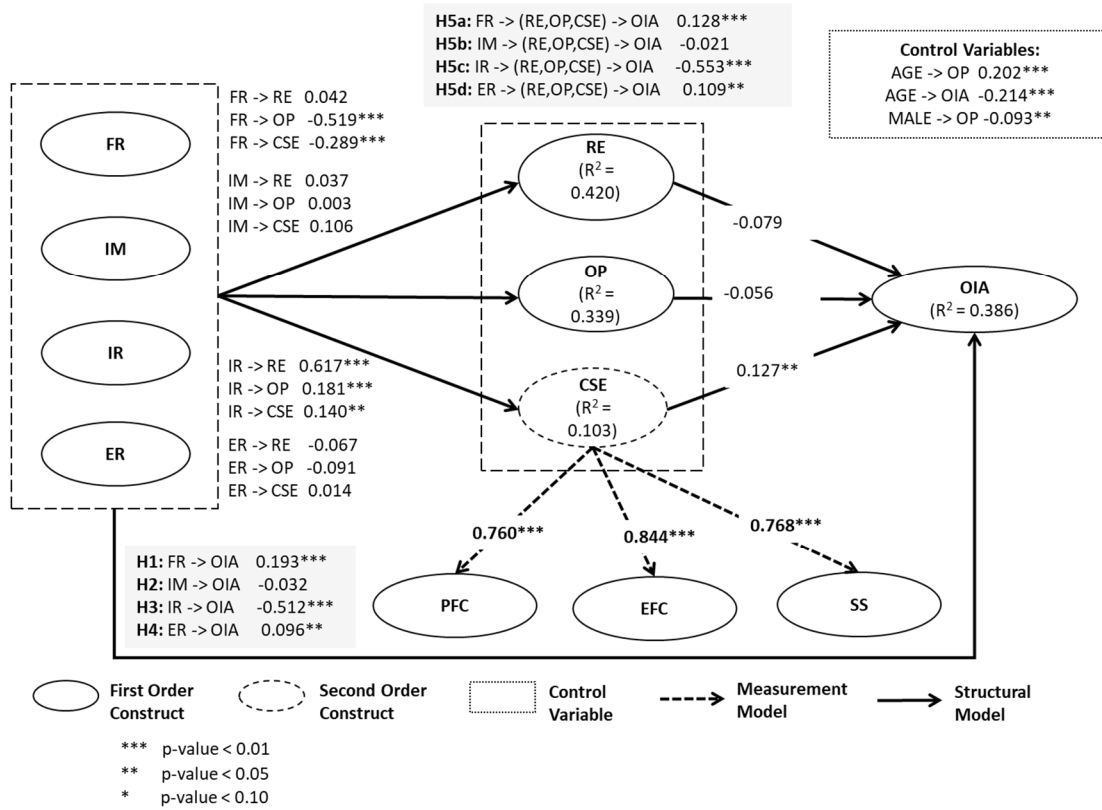
	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
FR										
IM	0.396									
IR	0.306	0.770								
ER	0.409	0.504	0.339							
RE	0.216	0.510	0.698	0.169						
OP	0.516	0.088	0.042	0.296	0.102					
PFC	0.087	0.374	0.304	0.130	0.272	0.148				
EFC	0.358	0.090	0.072	0.160	0.105	0.195	0.487			
SS	0.107	0.136	0.186	0.062	0.295	0.315	0.533	0.544		
OIA	0.118	0.349	0.566	0.109	0.414	0.253	0.170	0.055	0.018	

**Note:** FR = Fear, IM = Intrinsic Motivation, IR = Identified Regulation, ER = External Regulation, RE = Response Efficacy, OP = Optimism, PFC = Problem Focused Coping, EFC = Emotion Focused Coping, SS = Social Support, OIA = Online Information Avoidance

#### 4.1.4 Measurement Model of Summer 2022 Wave

We test the multicollinearity of all constructs before assessing the structural model. For that we use Variance Inflation Factor (VIF). Our results show all the construct VIFs are close to or lower than 3, meaning the absence of multicollinearity among the variables (Hair et al., 2019). The structural model results are presented in Figure 6. The statistically significance level of path coefficients were performed using bootstrapping with 5000 resamples.

**Figure 6 Path Co-efficients with Bootstrapping Result (Summer 2022 Wave)**



Our model explains 42% of the variation in response efficacy. We found the association between identified regulation and response efficacy ( $\hat{\beta}=0.617$ ; p-value<0.01) to be statistically significant. Our model explains 33.9% of the variation in optimism. We found the associations from fear to optimism ( $\hat{\beta}=-0.519$ ; p-value <0.01) and identified regulation to optimism ( $\hat{\beta}=0.181$ ; p-value <0.01) are statistically significant. Our model explains 10.3% of the variation in coping self-efficacy. We have found the associations from fear to coping self-efficacy ( $\hat{\beta}=-0.289$ ; p-value <0.01) and identified regulation to coping self-efficacy ( $\hat{\beta}=0.140$ ; p-value <0.05) are statistically significant.

Moreover, our model explains 38.6% of the variation in online information avoidance. We hypothesize fear and external regulation are positively associated with online information

avoidance, and intrinsic motivation and identified regulation are negatively associated with online information avoidance. We found the associations from fear to online information avoidance ( $\hat{\beta}=0.193$ ; p-value <0.01), external regulation to online information avoidance ( $\hat{\beta}=0.096$ ; p-value <0.05) and identified regulation to online information avoidance ( $\hat{\beta}=-0.512$ ; p-value <0.01) as statistically significant. Moreover, the association between coping self-efficacy and online information avoidance ( $\hat{\beta}=0.127$ ; p-value <0.05) is statistically significant, but the path direction is opposite to theoretical prediction. By analyzing the total effects when mediated by response efficacy, optimism, and coping self-efficacy, we can see the relationship between fear and online information avoidance becomes 0.128 (p-value <0.01). This total effect relationships is stronger than the direct effect relationship with stronger statistical significance, thus, supporting our mediation hypothesis.

Table 14 summarize the supported hypotheses with direct and total effects. The results allow us to conclude that the most important driver for online information avoidance is fear, and an important inhibitor is identified regulation.

**Table 14 Bootstrapping Result for Structural Model (Summer 2022 Wave)**

#	Path	Hypothesis	Direct effect	Total effect	Conclusion
H1	Fear → Online Information Avoidance	Positive	<b>0.193***</b>	-	Supported
H2	Intrinsic Motivation → Online Information Avoidance	Negative	-0.032	-	Not Supported
H3	Identified Regulation → Online Information Avoidance	Negative	<b>-0.512***</b>	-	Supported
H4	External Regulation → Online Information Avoidance	Positive	<b>0.096**</b>	-	Supported

H5a	Fear → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.128***</b>	Supported
H5b	Intrinsic Motivation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	-0.021	Not Supported
H5c	Identified Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	-0.553***	Not Supported
H5d	External Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	0.109***	Not Supported

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

We also conducted the mediation mechanism analysis to check the significant mediation effect of response efficacy, optimism, and coping self-efficacy between the association of fear, intrinsic motivation, identified regulation, and external regulation towards online information avoidance (see Table 15). Our results suggest partial mediation of coping self-efficacy between fear and online information avoidance.

**Table 15 Summary of Mediation Mechanism Analysis (Summer 2022 Wave)**

Path	Indirect effect	Direct effect	Interpretation
Fear → Response Efficacy → Online Information Avoidance	-0.003	0.193***	Direct only (no mediation)
Fear → Optimism → Online Information Avoidance	0.029	0.193***	Direct only (no mediation)

Fear → Coping Self-Efficacy → Online Information Avoidance	-0.037**	0.193***	Complementary (partial mediation)
Intrinsic Motivation → Response Efficacy → Online Information Avoidance	-0.003	-0.032	No Effect
Intrinsic Motivation → Optimism → Online Information Avoidance	0.000	-0.032	No Effect
Intrinsic Motivation → Coping Self-Efficacy → Online Information Avoidance	0.013	-0.032	No Effect
Identified Regulation → Response Efficacy → Online Information Avoidance	-0.049	-0.512***	Direct only (no mediation)
Identified Regulation → Optimism → Online Information Avoidance	-0.010	-0.512***	Direct only (no mediation)
Identified Regulation → Coping Self-Efficacy → Online Information Avoidance	0.018	-0.512***	Direct only (no mediation)
External Regulation → Response Efficacy → Online Information Avoidance	0.005	0.096**	Direct only (no mediation)
External Regulation → Optimism → Online Information Avoidance	0.005	0.096**	Direct only (no mediation)
External Regulation → Coping Self-Efficacy → Online Information Avoidance	0.002	0.096**	Direct only (no mediation)
*** p-value < 0.01    ** p-value < 0.05    * p-value < 0.10			

#### 4.1.5 MICOM Analysis (Summer 2020 vs Summer 2022)

Prommegger et al. (2021) show how to analyze and present multi-wave data that have been impacted by crisis such as COVID-19. According to the suggestions, analyzing multi-wave data separate and combined can help generating deeper insights. However, before analyzing the multi-wave data using a pooled cross-sectional approach, we run three-step measurement invariance of composite models (MICOM) test (Cheah et al., 2020). MICOM first step

configural invariance is achieved by making sure both wave models include the same indicators and constructs. Running the PLS Blindfolding automatically ensures configural invariance and satisfies the MICOM first step. MICOM second step compositional invariance shows (Table 16), the dependent variable Online Information Avoidance's p-value is statistically significant indicating compositional invariance is not achieved. Thus, combining the two waves will not induce bias. As the MICOM second step can not be fulfilled, MICOM third step composite equality assessment is not required.

**Table 16 MICOM Step 2 (Summer 2020 vs Summer 2022)**

Constructs	Original Correlation	Correlation Permutation Mean	5.0%	Permutation p-Values
Fear	0.9996	0.9999	0.9996	0.0580
Intrinsic Motivation	0.9999	0.9992	0.9970	0.7320
Identified Regulation	0.9996	0.9997	0.9992	0.1990
External Regulation	1.0000	0.9997	0.9992	0.9590
Response Efficacy	0.9998	0.9998	0.9995	0.2090
Optimism	0.9998	0.9999	0.9998	0.1060
<b>Problem-Focused Coping</b>	<b>0.9990</b>	<b>0.9997</b>	<b>0.9991</b>	<b>0.0320</b>
<b>Emotion-Focused Coping</b>	<b>0.9997</b>	<b>0.9999</b>	<b>0.9998</b>	<b>0.0090</b>
Social Support	1.0000	0.9999	0.9997	0.8510
<b>Online Information Avoidance</b>	<b>0.9995</b>	<b>0.9999</b>	<b>0.9996</b>	<b>0.0220</b>

#### 4.1.6 Measurement Model of Pooled Cross-sectional Analysis

We analyze the measurement model to assess the construct reliability, convergent validity, indicator reliability, and discriminant validity of the constructs' items. All the first-order constructs in the model are assessed reflectively. Table 17, 18, and 19 show the measurement model results.

**Table 17 Descriptive Statistics, Correlation, and Average Variance Extracted (Pooled Cross-section)**

Constructs	Mean	SD	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
<b>FR</b>	3.967	1.688	<b>0.867</b>									
<b>IM</b>	4.305	1.507	0.475	<b>0.858</b>								
<b>IR</b>	5.398	1.279	0.279	0.471	<b>0.883</b>							
<b>ER</b>	3.820	1.751	0.617	0.553	0.297	<b>0.875</b>						
<b>RE</b>	5.307	1.220	0.211	0.372	0.643	0.204	<b>0.897</b>					
<b>OP</b>	4.087	1.722	0.644	0.327	0.050	0.529	0.021	<b>0.917</b>				
<b>PFC</b>	4.906	1.197	0.112	0.360	0.285	0.210	0.305	0.074	<b>0.825</b>			
<b>EFC</b>	4.757	1.492	0.074	0.148	0.016	0.070	0.181	0.048	0.490	<b>0.892</b>		
<b>SS</b>	4.859	1.492	0.106	0.253	0.232	0.196	0.323	0.003	0.491	0.522	<b>0.921</b>	
<b>OIA</b>	3.264	1.760	0.473	0.262	0.217	0.489	0.143	0.562	0.097	0.221	0.175	<b>0.887</b>

*Notes:* SD = Standard Deviation; Diagonal elements are square root of average variance extracted (AVE) and off-diagonal elements are correlations; FR = Fear; IM = Intrinsic Motivation; IR = Identified Regulation; ER = External Regulation; RE = Response Efficacy; OP = Optimism; PFC = Problem Focused Coping; EFC = Emotion Focused Coping; SS = Social Support; OIA = Online Information Avoidance.

Construct reliability is tested using the composite reliability (CR) and our desired cut-off value is 0.70. From Table 18, we can see that for each of the constructs the CR is more than the cut-off value. This shows the constructs are appropriate and internally consistent (Henseler et al., 2009; Straub, 1989). The average variance extracted (AVE) is used to identify the convergent validity, and our desired cut-off value is 0.50. Table 17 shows that for each of the constructs the AVE is more than the cut-off value. This establishes the convergent validity of the measurement model (Fornell & Larcker, 1981; Hair et al., 2012). According to (Churchill, 1979), the item loading should be higher than 0.70 to achieve item reliability. From Table 18 we find that all item loadings are more than the desired value. Thus, the reliability of the items is satisfied.

**Table 18 Loadings and Cross Loadings of Items (Pooled Cross-section)**

Constructs	Items	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
Fear (FR) CR = 0.960	FR1	<b>0.810</b>	0.410	0.368	0.443	0.321	-0.438	0.119	-0.088	0.106	0.218
	FR2	<b>0.870</b>	0.409	0.336	0.471	0.285	-0.494	0.101	-0.090	0.097	0.283
	FR3	<b>0.867</b>	0.413	0.246	0.554	0.193	-0.572	0.144	-0.048	0.093	0.387
	FR4	<b>0.868</b>	0.386	0.180	0.542	0.114	-0.608	0.064	-0.134	0.029	0.428
	FR5	<b>0.863</b>	0.402	0.173	0.577	0.112	-0.602	0.103	0.003	0.123	0.539
	FR6	<b>0.849</b>	0.425	0.132	0.613	0.082	-0.622	0.099	0.013	0.127	0.593
	FR7	<b>0.896</b>	0.426	0.294	0.501	0.219	-0.529	0.089	-0.100	0.073	0.349
	FR8	<b>0.913</b>	0.427	0.287	0.531	0.216	-0.547	0.063	-0.101	0.080	0.366
Intrinsic Motivation (IM) CR = 0.848	IM1	0.364	<b>0.826</b>	0.375	0.387	0.269	-0.262	0.326	0.137	0.214	0.162
	IM4	0.445	<b>0.888</b>	0.430	0.548	0.361	-0.297	0.297	0.120	0.222	0.277
Identified Regulation (IR) CR = 0.914	IR1	0.264	0.405	<b>0.896</b>	0.284	0.538	-0.047	0.255	0.001	0.208	-0.180
	IR2	0.293	0.486	<b>0.877</b>	0.336	0.573	-0.089	0.253	0.040	0.215	-0.131
	IR4	0.187	0.361	<b>0.877</b>	0.172	0.588	0.001	0.247	0.002	0.193	-0.259
External Regulation (ER) CR = 0.929	ER1	0.506	0.505	0.293	<b>0.871</b>	0.227	-0.449	0.159	0.071	0.175	0.377
	ER2	0.507	0.516	0.355	<b>0.886</b>	0.252	-0.395	0.202	0.024	0.168	0.330
	ER3	0.589	0.450	0.100	<b>0.859</b>	0.061	-0.541	0.169	0.113	0.165	0.590
	ER4	0.540	0.472	0.340	<b>0.886</b>	0.208	-0.438	0.209	0.017	0.178	0.360
Response Efficacy (RE) CR = 0.925	RE1	0.199	0.398	0.528	0.220	<b>0.883</b>	-0.038	0.322	0.189	0.313	-0.058
	RE2	0.183	0.281	0.593	0.164	<b>0.894</b>	-0.019	0.256	0.140	0.255	-0.152
	RE3	0.186	0.329	0.602	0.168	<b>0.912</b>	-0.004	0.250	0.162	0.304	-0.167
Optimism (OP) CR = 0.941	OP2	-0.626	-0.343	-0.050	-0.531	-0.043	<b>0.910</b>	-0.082	-0.074	-0.049	-0.561
	OP4	-0.565	-0.285	-0.055	-0.472	-0.018	<b>0.921</b>	-0.066	-0.019	0.012	-0.498
	OP5	-0.575	-0.266	-0.031	-0.447	0.005	<b>0.921</b>	-0.054	-0.036	0.035	-0.482
Problem Focused Coping (PFC) CR = 0.865	PFC1	0.128	0.358	0.200	0.234	0.214	-0.090	<b>0.836</b>	0.423	0.396	0.162
	PFC2	0.085	0.277	0.263	0.159	0.274	-0.046	<b>0.836</b>	0.333	0.391	0.022
	PFC5	0.064	0.256	0.244	0.126	0.268	-0.047	<b>0.803</b>	0.451	0.425	0.052
Emotion Focused Coping (EFC) CR = 0.921	EFC1	-0.027	0.171	0.050	0.114	0.166	-0.084	0.425	<b>0.870</b>	0.470	0.203
	EFC3	-0.089	0.111	-0.001	0.034	0.155	-0.029	0.452	<b>0.910</b>	0.481	0.195
	EFC4	-0.080	0.115	-0.005	0.039	0.164	-0.018	0.434	<b>0.895</b>	0.444	0.193
Social Support (SS) CR = 0.918	SS1	0.112	0.253	0.200	0.209	0.463	-0.047	0.283	0.489	<b>0.923</b>	0.208
	SS2	0.082	0.213	0.228	0.151	0.440	0.042	0.313	0.472	<b>0.919</b>	0.113



Online	OIA1	0.413	0.257	-0.221	0.453	-0.137	-0.485	0.105	0.200	0.143	<b>0.908</b>
Information	OIA2	0.441	0.252	-0.200	0.465	-0.120	-0.530	0.093	0.226	0.186	<b>0.917</b>
Avoidance	OIA4	0.439	0.244	-0.178	0.443	-0.121	-0.544	0.078	0.220	0.160	<b>0.898</b>
(OIA)	OIA6	0.383	0.166	-0.169	0.365	-0.134	-0.431	0.066	0.127	0.126	<b>0.824</b>
CR = 0.937											

*Note:* CR = Composite Reliability

To examine the construct's discriminant validity, we use Fornell-Larcker criteria, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al. (2015). The correlation between constructs and the square root of AVE (from Table 17) shows the square root of AVE of each construct (diagonal elements) is more than the correlations between the constructs. This satisfies the first criterion for discriminant validity (Fornell & Larcker, 1981). We also need to check that each construct's loadings are greater than the cross-loadings as the second criterion for discriminant validity (Chin, 1998). From Table 18, we can see that the loadings (in bold) are greater than the cross-loadings in the respective columns. Lastly, Table 19 shows all the HTMT are below the threshold of 0.90. Therefore, the discriminant validity of the constructs is established. From these analyses, we identify that the constructs are fit to be used in testing the structural model.

**Table 19 Heterotrait-Monotrait (HTMT) Ratio (Pooled Cross-section)**

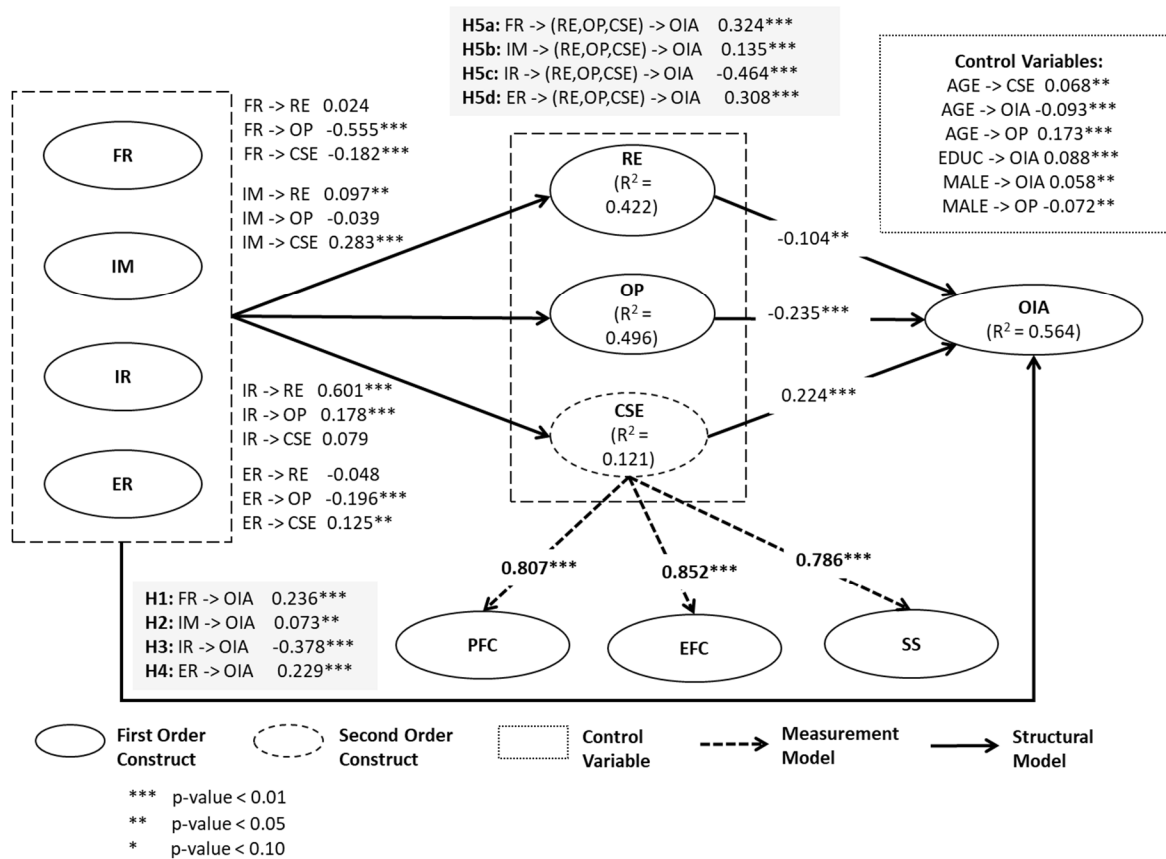
	FR	IM	IR	ER	RE	OP	PFC	EFC	SS	OIA
<b>FR</b>										
<b>IM</b>	0.602									
<b>IR</b>	0.323	0.631								
<b>ER</b>	0.653	0.717	0.357							
<b>RE</b>	0.244	0.492	0.736	0.242						
<b>OP</b>	0.682	0.423	0.063	0.574	0.032					
<b>PFC</b>	0.132	0.516	0.352	0.254	0.376	0.088				
<b>EFC</b>	0.096	0.200	0.034	0.075	0.208	0.054	0.597			
<b>SS</b>	0.118	0.348	0.277	0.227	0.382	0.056	0.618	0.616		
<b>OIA</b>	0.489	0.330	0.243	0.520	0.158	0.615	0.113	0.245	0.200	

**Note:** FR = Fear, IM = Intrinsic Motivation, IR = Identified Regulation, ER = External Regulation, RE = Response Efficacy, OP = Optimism, PFC = Problem Focused Coping, EFC = Emotion Focused Coping, SS = Social Support, OIA = Online Information Avoidance

#### 4.1.7 Structural Model of Pooled Cross-sectional Analysis

We test the multicollinearity of all constructs before assessing the structural model. For that we use Variance Inflation Factor (VIF). Our results show all the construct VIFs are close to or lower than 3, meaning the absence of multicollinearity among the variables (Hair et al., 2019). The structural model results are presented in Figure 7. The statistically significance level of path coefficients were performed using bootstrapping with 5000 resamples.

**Figure 7 Path Co-efficients with Bootstrapping Result (Pooled Cross-section)**



Our model explains 42.2% of the variation in response efficacy. We found the association between intrinsic motivation and response efficacy ( $\hat{\beta}=0.097$ ; p-value<0.05) as well as identified regulation and response efficacy ( $\hat{\beta}=0.601$ ; p-value<0.01) to be statistically significant. Our model explains 49.6% of the variation in optimism. We found the associations from fear to optimism ( $\hat{\beta}=-0.555$ ; p-value <0.01), external regulation to optimism ( $\hat{\beta}=-0.196$ ; p-value <0.01) and identified regulation to optimism ( $\hat{\beta}=0.178$ ; p-value <0.01) are statistically significant. Our model explains 12.1% of the variation in coping self-efficacy. We have found the associations from fear to coping self-efficacy ( $\hat{\beta}=-0.182$ ; p-value <0.01) and intrinsic motivation to coping self-efficacy ( $\hat{\beta}=0.283$ ; p-value <0.01) are statistically significant. We also found statistically significant relationship between external regulation to coping self-efficacy ( $\hat{\beta}=0.125$ ; p-value <0.05). However, the path direction is opposite to what we hypothesize.

Moreover, our model explains 56.4% of the variation in online information avoidance. We hypothesize fear and external regulation are positively associated with online information avoidance, and intrinsic motivation and identified regulation are negatively associated with online information avoidance. We found the associations from fear to online information avoidance ( $\hat{\beta}=0.236$ ; p-value <0.01), external regulation to online information avoidance ( $\hat{\beta}=0.229$ ; p-value <0.01) and identified regulation to online information avoidance ( $\hat{\beta}=-0.378$ ; p-value <0.01) as statistically significant. We also found the association between intrinsic motivation and online information avoidance ( $\hat{\beta}=0.073$ ; p-value <0.05) as statistically significant, however the path direction is opposite to what we hypothesize. Moreover, we found the associations from response efficacy to online information avoidance ( $\hat{\beta}=-0.104$ ; p-value <0.05), and optimism to online information avoidance ( $\hat{\beta}=-0.235$ ; p-value <0.01) are statistically significant. The association between coping self-efficacy and online information avoidance

( $\hat{\beta}=0.224$ ; p-value <0.01) is statistically significant, but the path direction is opposite to theoretical prediction. By analyzing the total effects when mediated by response efficacy, optimism, and coping self-efficacy, we can see the relationship between fear and online information avoidance becomes 0.324 (p-value <0.01), the relationship between intrinsic motivation and online information avoidance becomes 0.135 (p-value <0.01), the relationship between identified regulation and online information avoidance becomes -0.464 (p-value <0.01), and relationship between external regulation and online information avoidance becomes 0.308 (p-value <0.01). All these total effect relationships are stronger than the respective direct effect relationship with stronger statistical significance, thus, supporting our mediation hypothesis.

Table 20 summarize the supported hypotheses with direct and total effects. The results allow us to conclude that the most important driver for online information avoidance is fear, and an important inhibitor is identified regulation.

**Table 20 Bootstrapping Result for Structural Model (Pooled Cross-section)**

#	Path	Hypothesis	Direct effect	Total effect	Conclusion
H1	Fear → Online Information Avoidance	Positive	<b>0.236**</b>	-	Supported
H2	Intrinsic Motivation → Online Information Avoidance	Negative	0.073**	-	Not Supported
H3	Identified Regulation → Online Information Avoidance	Negative	<b>-0.378***</b>	-	Supported
H4	External Regulation → Online Information Avoidance	Positive	<b>0.229**</b>	-	Supported
H5a	Fear → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.324***</b>	Supported
H5b	Intrinsic Motivation → (Response Efficacy, Optimism, Coping Self-	Mediation	-	<b>0.135***</b>	

	efficacy) → Online Information Avoidance				Supported
H5c	Identified Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>-0.464***</b>	Supported
H5d	External Regulation → (Response Efficacy, Optimism, Coping Self-efficacy) → Online Information Avoidance	Mediation	-	<b>0.308***</b>	Supported

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

We also conducted the mediation mechanism analysis to check the significant mediation effect of response efficacy, optimism, and coping self-efficacy between the association of fear, intrinsic motivation, identified regulation, and external regulation towards online information avoidance (see Table 21). Our results suggest partial mediation of response efficacy between identified regulation and online information avoidance. Our results also suggest partial mediation of optimism between fear and online information avoidance, identified regulation and online information avoidance, and external regulation and online information avoidance. Moreover, we find partial mediation of coping self-efficacy between fear and online information avoidance, intrinsic motivation and online information avoidance, and external regulation and online information avoidance.

**Table 21 Summary of Mediation Mechanism Analysis (Pooled Cross-section)**

Path	Indirect effect	Direct effect	Interpretation
Fear → Response Efficacy → Online Information Avoidance	-0.002	0.236**	Direct only (no mediation)

Fear → Optimism → Online Information Avoidance	0.131***	0.236**	Complementary (partial mediation)
Fear → Coping Self-Efficacy → Online Information Avoidance	-0.041***	0.236**	Complementary (partial mediation)
Intrinsic Motivation → Response Efficacy → Online Information Avoidance	-0.010	0.073**	Direct only (no mediation)
Intrinsic Motivation → Optimism → Online Information Avoidance	0.009	0.073**	Direct only (no mediation)
Intrinsic Motivation → Coping Self-Efficacy → Online Information Avoidance	0.063***	0.073**	Complementary (partial mediation)
Identified Regulation → Response Efficacy → Online Information Avoidance	-0.062**	-0.378***	Complementary (partial mediation)
Identified Regulation → Optimism → Online Information Avoidance	-0.042**	-0.378***	Complementary (partial mediation)
Identified Regulation → Coping Self-Efficacy → Online Information Avoidance	0.018	-0.378***	Direct only (no mediation)
External Regulation → Response Efficacy → Online Information Avoidance	0.005	0.229**	Direct only (no mediation)
External Regulation → Optimism → Online Information Avoidance	0.046***	0.229**	Complementary (partial mediation)
External Regulation → Coping Self-Efficacy → Online Information Avoidance	0.028**	0.229**	Complementary (partial mediation)

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

#### 4.1.8 Robustness of Health Crisis Model Results

To support our finding from the PLS-SEM analysis, we run Importance-Performance Map Analysis (IPMA). IPMA extends the PLS-SEM result by considering the performance of all the predictor constructs in explaining a target construct (Hair Jr et al., 2017). In this study, IPMA is defined as the two-dimensional grid based on importance and performance of the predictors

(Ahmad & Afthanorhan, 2014) in predicting online information avoidance during COVID-19.

Our separate and combined wave results show that, according to the absolute value of the importance fear and identified regulation constructs play the most significant roles in explaining online information avoidance. Moreover, our analysis reveals that identified regulation is the most significant construct in explaining the performance of online information avoidance across the waves. Appendix C shows the graphical representation of the results of IPMA.

**Table 22 Importance-Performance Map Analysis of Health Crisis Model**

Constructs	Standardized Measures on Online Information Avoidance					
	Summer 2020 Wave		Summer 2022 Wave		Combined	
	Importance	Performance	Importance	Performance	Importance	Performance
<b>Independent Variable</b>						
Fear	<b>0.411</b>	58.987	0.182	40.939	0.324	49.458
Intrinsic Motivation	0.139	63.048	0.021	48.034	0.135	55.084
Identified Regulation	0.330	<b>73.778</b>	<b>0.553</b>	<b>72.823</b>	<b>0.464</b>	<b>73.301</b>
External Regulation	0.329	58.513	0.109	36.280	0.308	47.005
<b>Moderator Variable</b>						
Response Efficacy	0.177	73.401	0.079	70.270	0.104	71.785
Optimism	0.342	42.719	0.056	59.776	0.235	51.453
Coping Self-Efficacy	0.147	68.560	0.127	59.665	0.224	63.988
<b>Control Variable</b>						
Age	0.047	36.976	0.225	36.204	0.113	36.579
Education	0.093	47.230	0.014	34.082	0.079	40.466
Male	0.067	65.341	0.048	50.134	0.075	57.517

Moreover, we also run Artificial Neural Network (ANN) analysis to find out the bias-corrected importance of each predictor variable (Lee et al., 2020). We try four models for each of the three datasets. Model 1 tests the prediction model with 1 hidden hyperbolic tangent layer, model 2 tests 2 hidden hyperbolic tangent layer, model 3 tests 1 hidden sigmoid layer, and model 4 tests 2 hidden sigmoid layers. Table 23 shows the results of the analysis and Appendix D includes the ANN models' graphical representations. The summer 2020 wave's average Root Mean Squared Error (RMSE) is 0.264. The four models consistently indicate fear as the most

important predictor of online information avoidance. The models also show external regulation and intrinsic motivation are significant explanatory variables of online information avoidance. The summer 2022 wave's average Root Mean Squared Error (RMSE) is 0.606. The four models consistently indicate identified regulation as the most important predictor of online information avoidance. The models also show fear and intrinsic motivation are significant explanatory variables of online information avoidance. The combined dataset's average Root Mean Squared Error (RMSE) is 0.368. The four models consistently indicate identified regulation as the most important predictor of online information avoidance. The models also show fear and external regulation are significant explanatory variables of online information avoidance. These findings are consistent with both the PLS-SEM and IPMA analysis.

**Table 23 Artificial Neural Network Analysis of Health Crisis Model**

Constructs	Target: Online Information Avoidance			
	Model 1	Model 2	Model 3	Model 4
	Importance	Importance	Importance	Importance
<b>Summer 2020 Wave: Average Root Mean Squared Error 0.264</b>				
<b>Independent Variable</b>				
Fear	<b>0.164</b>	<b>0.131</b>	<b>0.142</b>	<b>0.158</b>
Intrinsic Motivation	0.075	0.098	<b>0.139</b>	0.101
Identified Regulation	0.102	0.082	0.103	0.126
External Regulation	<b>0.153</b>	0.102	0.095	0.077
<b>Moderator Variable</b>				
Response Efficacy	0.132	<b>0.142</b>	0.133	<b>0.149</b>
Optimism	0.136	<b>0.250</b>	<b>0.234</b>	<b>0.216</b>
Coping Self-Efficacy	<b>0.137</b>	0.073	0.062	0.085
<b>Control Variable</b>				
Age	0.022	0.031	0.007	0.017
Education	0.071	0.067	0.070	0.061
Male	0.008	0.025	0.014	0.010
<b>Summer 2022 Wave: Average Root Mean Squared Error 0.606</b>				
<b>Independent Variable</b>				
Fear	0.102	<b>0.118</b>	<b>0.163</b>	<b>0.130</b>
Intrinsic Motivation	<b>0.155</b>	0.106	0.042	0.034
Identified Regulation	<b>0.207</b>	<b>0.281</b>	<b>0.335</b>	<b>0.352</b>
External Regulation	0.084	0.073	0.065	0.058



<b>Moderator Variable</b>					
Response Efficacy	0.121	0.090	0.091	0.084	
Optimism	0.071	0.032	0.023	0.020	
Coping Self-Efficacy	0.085	0.074	0.096	0.074	
<b>Control Variable</b>					
Age	<b>0.137</b>	<b>0.141</b>	<b>0.141</b>	<b>0.195</b>	
Education	0.023	0.061	0.034	0.043	
Male	0.017	0.022	0.012	0.012	
<b>Combined: Average Root Mean Squared Error 0.368</b>					
<b>Independent Variable</b>					
Fear	0.109	0.148	<b>0.149</b>	<b>0.163</b>	
Intrinsic Motivation	0.042	0.049	0.036	0.013	
Identified Regulation	<b>0.227</b>	<b>0.197</b>	<b>0.232</b>	<b>0.193</b>	
External Regulation	<b>0.119</b>	0.067	0.122	0.119	
<b>Moderator Variable</b>					
Response Efficacy	0.101	0.121	0.080	<b>0.136</b>	
Optimism	0.107	<b>0.159</b>	0.125	<b>0.136</b>	
Coping Self-Efficacy	<b>0.144</b>	<b>0.153</b>	<b>0.141</b>	0.130	
<b>Control Variable</b>					
Age	0.081	0.062	0.065	0.040	
Education	0.052	0.032	0.036	0.053	
Male	0.019	0.013	0.014	0.019	

## 4.2 Analysis of Humanitarian Crisis Model

### 4.2.1 Measurement Model of Poland

We analyze the measurement model to assess the construct reliability, convergent validity, indicator reliability, and discriminant validity of the constructs' items. All the first-order constructs in the model are assessed reflectively. Table 24, 25, and 26 show the measurement model results.

**Table 24 Descriptive Statistics, Correlation, and Average Variance Extracted (Poland)**

<b>Constructs</b>	<b>Mean</b>	<b>SD</b>	<b>EXP</b>	<b>IMP</b>	<b>VLC</b>	<b>OBJ</b>	<b>SOT</b>	<b>SOF</b>	<b>AOD</b>	<b>JAS</b>	<b>OIA</b>
<b>EXP</b>	4.834	1.295	<b>0.839</b>								
<b>IMP</b>	4.580	1.258	0.043	<b>0.838</b>							
<b>VLC</b>	5.637	1.179	0.114	0.199	<b>0.835</b>						
<b>OBJ</b>	3.019	1.165	0.205	0.059	0.224	<b>0.773</b>					
<b>SOT</b>	4.584	1.267	0.083	0.022	0.031	0.138	<b>0.852</b>				
<b>SOF</b>	4.337	1.233	0.227	0.002	0.177	0.385	0.433	<b>0.847</b>			

<b>AOD</b>	4.254	1.035	0.174	0.044	0.132	0.284	0.317	0.509	<b>0.871</b>	
<b>JAS</b>	4.123	1.172	0.174	0.006	0.165	0.325	0.219	0.567	0.592	<b>0.890</b>
<b>OIA</b>	2.360	1.073	0.263	0.200	0.153	0.225	0.007	0.035	0.030	0.060 <b>0.773</b>

*Notes:* SD = Standard Deviation; Diagonal elements are square root of average variance extracted (AVE) and off-diagonal elements are correlations; EXP = Expectedness; IMP = Importance; VLC = Valence; SOT = Selectivity of Topics; SOF = Selectivity of Facts; AOD = Accuracy of Depictions; JAS = Journalistic Assessment; OIA = Online Information Avoidance.

Construct reliability is tested using the composite reliability (CR) and our desired cut-off value is 0.70. From Table 25, we can see that for each of the constructs the CR is more than the cut-off value. This shows the constructs are appropriate and internally consistent (Henseler et al., 2009; Straub, 1989). The average variance extracted (AVE) is used to identify the convergent validity, and our desired cut-off value is 0.50. Table 24 shows that for each of the constructs the AVE is more than the cut-off value. This establishes the convergent validity of the measurement model (Fornell & Larcker, 1981; Hair et al., 2012). According to (Churchill, 1979), the item loading should be higher than 0.70 to achieve item reliability. From Table 25 we find that all item loadings are near or above the desired value. Thus, the reliability of the items is satisfied.

**Table 25 Loadings and Cross Loadings of Items (Poland)**

<b>Constructs</b>	<b>Items</b>	<b>EXP</b>	<b>IMP</b>	<b>VLC</b>	<b>OBJ</b>	<b>SOT</b>	<b>SOF</b>	<b>AOD</b>	<b>JAS</b>	<b>OIA</b>
Expectedness (EXP) CR=0.877	EXP1	<b>0.799</b>	0.097	0.012	-0.077	-0.037	-0.146	-0.060	-0.117	-0.196
	EXP2	<b>0.877</b>	0.119	0.105	-0.175	-0.033	-0.162	-0.093	-0.136	-0.217
	EXP3	<b>0.839</b>	-0.061	0.136	-0.224	-0.115	-0.238	-0.235	-0.170	-0.240
Importance (IMP) CR=0.904	IMP1	-0.041	<b>0.824</b>	0.128	-0.026	0.015	0.023	0.117	-0.013	-0.169
	IMP2	0.103	<b>0.878</b>	0.243	-0.077	-0.005	-0.032	0.005	-0.019	-0.184
	IMP3	-0.079	<b>0.844</b>	0.070	-0.021	0.006	0.076	0.076	0.082	-0.161
	IMP4	0.150	<b>0.806</b>	0.217	-0.071	-0.095	-0.053	-0.046	-0.025	-0.157
Valence (VLC) CR=0.902	VLC1	0.073	0.130	<b>0.861</b>	-0.190	-0.030	-0.140	-0.113	-0.089	-0.162
	VLC2	0.094	0.206	<b>0.878</b>	-0.158	0.009	-0.162	-0.093	-0.135	-0.121
	VLC3	-0.048	0.182	<b>0.766</b>	-0.052	-0.002	-0.064	-0.067	-0.025	-0.073
	VLC4	0.160	0.169	<b>0.830</b>	-0.252	-0.055	-0.174	-0.137	-0.219	-0.124
	OBJ1	-0.140	-0.078	-0.169	<b>0.727</b>	0.144	0.274	0.300	0.237	0.146
	OBJ3	-0.102	-0.065	-0.160	<b>0.759</b>	0.170	0.331	0.232	0.255	0.094

Perceived	OBJ4	-0.233	-0.031	-0.211	<b>0.848</b>	0.075	0.307	0.171	0.277	0.242
Objectivity (OBJ)	OBJ5	-0.117	-0.018	-0.138	<b>0.754</b>	0.066	0.294	0.208	0.235	0.174
CR=0.856										
Selectivity of	SOT2	-0.072	-0.008	-0.001	0.066	<b>0.820</b>	0.329	0.273	0.144	-0.004
Topics (SOT)	SOT3	-0.069	-0.048	-0.027	0.162	<b>0.893</b>	0.425	0.321	0.219	-0.001
CR=0.888	SOT4	-0.070	0.004	-0.051	0.116	<b>0.842</b>	0.345	0.209	0.192	-0.015
Selectivity of	SOF1	-0.129	-0.010	-0.127	0.232	0.443	<b>0.809</b>	0.380	0.422	-0.113
Facts (SOF)	SOF2	-0.214	0.031	-0.191	0.398	0.284	<b>0.871</b>	0.468	0.501	-0.023
CR=0.884	SOF3	-0.230	-0.016	-0.132	0.345	0.377	<b>0.861</b>	0.443	0.514	0.041
Accuracy of	AOD2	-0.178	0.020	-0.141	0.259	0.260	0.421	<b>0.883</b>	0.512	0.009
Depictions (AOD)	AOD3	-0.155	0.073	-0.082	0.277	0.265	0.481	<b>0.888</b>	0.562	-0.026
CR=0.904	AOD4	-0.121	0.020	-0.124	0.204	0.304	0.425	<b>0.842</b>	0.471	-0.063
Journalistic	JAS2	-0.149	-0.027	-0.114	0.232	0.191	0.435	0.527	<b>0.880</b>	-0.071
Assessment (JAS)	JAS3	-0.160	0.034	-0.177	0.343	0.198	0.568	0.527	<b>0.900</b>	-0.038
CR=0.884										
	OIA1	-0.270	-0.130	-0.107	0.265	0.034	0.056	0.044	-0.013	<b>0.816</b>
Online Information	OIA2	-0.202	-0.117	-0.124	0.290	0.030	0.021	0.016	0.041	<b>0.831</b>
Avoidance (OIA)	OIA3	-0.293	-0.178	-0.137	0.160	-0.014	0.004	-0.013	0.002	<b>0.845</b>
CR=0.898	OIA5	-0.071	-0.218	-0.128	0.106	-0.002	-0.120	-0.078	-0.101	<b>0.670</b>
	OIA7	-0.193	-0.106	-0.131	0.145	-0.046	-0.006	-0.035	-0.061	<b>0.763</b>
	OIA8	-0.124	-0.221	-0.082	0.013	-0.059	-0.202	-0.130	-0.234	<b>0.692</b>
<i>Note:</i> CR = Composite Reliability										

To examine the construct's discriminant validity, we use Fornell-Larcker criteria, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al. (2015). The correlation between constructs and the square root of AVE (from Table 24) shows the square root of AVE of each construct (diagonal elements) is more than the correlations between the constructs. This satisfies the first criterion for discriminant validity (Fornell & Larcker, 1981). We also need to check that each construct's loadings are greater than the cross-loadings as the second criterion for discriminant validity (Chin, 1998). From Table 25, we can see that the loadings (in bold) are greater than the cross-loadings in the respective columns. Lastly, Table 26 shows all the HTMT are below the threshold of 0.90. Therefore, the discriminant validity of the constructs is

established. From these analyses, we identify that the constructs are fit to be used in testing the structural model.

**Table 26 Heterotrait-Monotrait (HTMT) Ratio (Poland)**

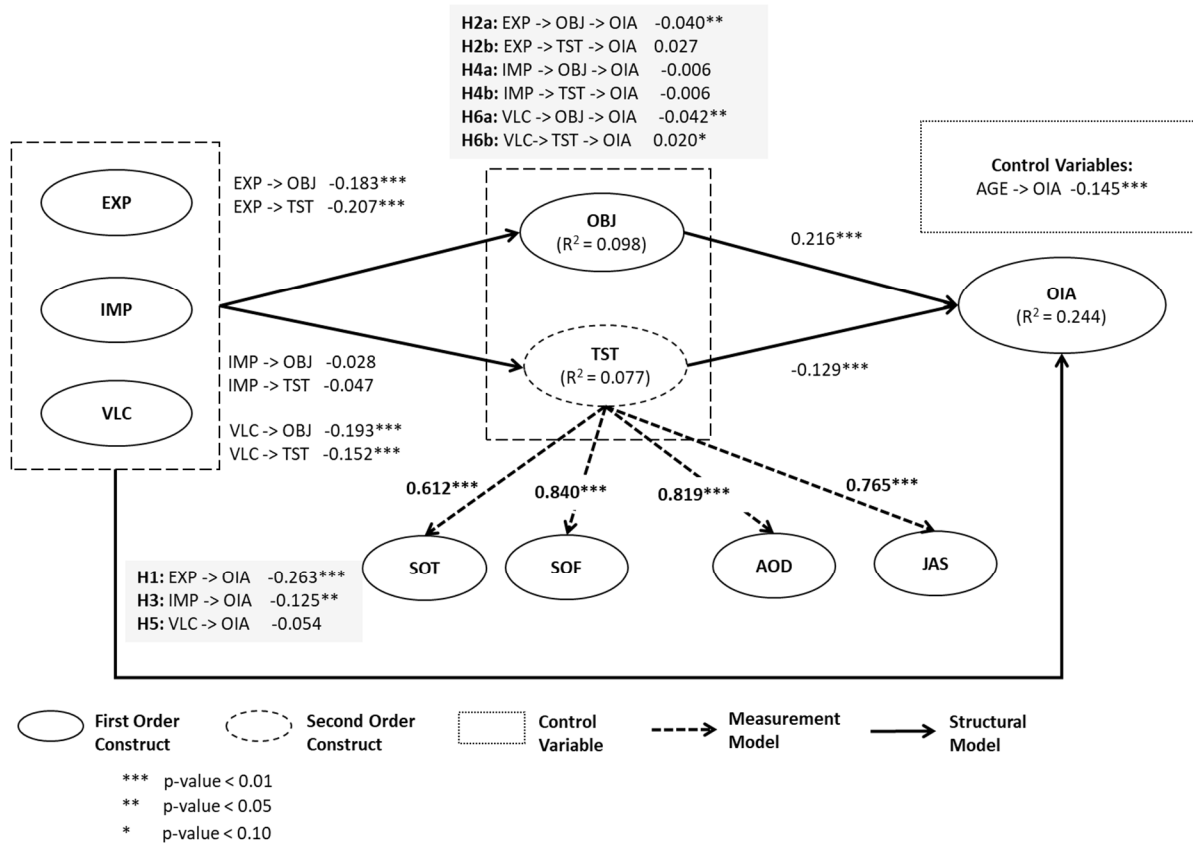
	<b>EXP</b>	<b>IMP</b>	<b>VLC</b>	<b>OBJ</b>	<b>SOT</b>	<b>SOF</b>	<b>AOD</b>	<b>JAS</b>	<b>OIA</b>
<b>EXP</b>									
<b>IMP</b>	0.161								
<b>VLC</b>	0.124	0.233							
<b>OBJ</b>	0.220	0.088	0.234						
<b>SOT</b>	0.091	0.056	0.042	0.180					
<b>SOF</b>	0.267	0.066	0.192	0.489	0.534				
<b>AOD</b>	0.186	0.089	0.144	0.361	0.381	0.618			
<b>JAS</b>	0.218	0.071	0.174	0.424	0.281	0.732	0.752		
<b>OIA</b>	0.292	0.242	0.167	0.255	0.055	0.154	0.100	0.131	

Notes: EXP = Expectedness; IMP = Importance; VLC = Valence; SOT = Selectivity of Topics; SOF = Selectivity of Facts; AOD = Accuracy of Depictions; JAS = Journalistic Assessment; OIA = Online Information Avoidance.

#### 4.2.2 Structural Model of Poland

We test the multicollinearity of all constructs before assessing the structural model. For that we use Variance Inflation Factor (VIF). Our results show all the construct VIFs are close to or lower than 3, meaning the absence of multicollinearity among the variables (Hair et al., 2019). The structural model results are presented in Figure 8. The statistically significance level of path coefficients were performed using bootstrapping with 5000 resamples.

**Figure 8 Path Co-efficients with Bootstrapping Result (Poland)**



Our model explains 9.8% of the variation in perceived objectivity. We found the association between expectedness and objectivity ( $\hat{\beta} = -0.183$ ; p-value < 0.01) and valence to objectivity ( $\hat{\beta} = -0.193$ ; p-value < 0.01) to be statistically significant. Our model explains 7.7% of the variation in trust. We found the associations from expectedness to trust ( $\hat{\beta} = -0.207$ ; p-value < 0.01) and valence to trust ( $\hat{\beta} = -0.152$ ; p-value < 0.01) are statistically significant.

Moreover, our model explains 24.4% of the variation in online information avoidance. We hypothesize expectedness and importance are negatively associated with online information avoidance, and valence is positively associated with online information avoidance. We found the associations from expectedness to online information avoidance ( $\hat{\beta} = -0.263$ ; p-value < 0.01) and importance to online information avoidance ( $\hat{\beta} = -0.125$ ; p-value < 0.05) as statistically significant.

Moreover, we found the associations from objectivity to online information avoidance ( $\hat{\beta}=0.216$ ; p-value <0.01) and trust to online information avoidance ( $\hat{\beta}=-0.129$ ; p-value <0.01) are statistically significant.

Table 27 summarize the supported hypotheses with direct and indirect effects. Using the mediation mechanism, the result show that perceived objectivity is a significant mediator between the relationship of expectedness and online information avoidance. Through the perceived objectivity channel, expectedness reduces online information avoidance significantly ( $\hat{\beta}=-0.040$ ; p-value <0.05). In the relationship between importance and online information avoidance, both perceived objectivity and trust do not play a mediating role. We can also see in the relationship between valence and online information avoidance, perceived objectivity and trust playing significant mediating role. Valence reduces online information avoidance significantly through the mediation of perceived objectivity ( $\hat{\beta}=-0.042$ ; p-value <0.05). Moreover, valence increases online information avoidance significantly through the mediation of trust in source ( $\hat{\beta}=0.020$ ; p-value <0.10).

The results allow us to conclude that the most important inhibitors for online information avoidance are expectedness and importance. Valence drives online information avoidance through the mediation channel of trust in source.

**Table 27 Bootstrapping Result for Structural Model (Poland)**

#	Path	Hypothesis	Direct effect	Indirect effect	Conclusion
H1	Expectedness → Online Information Avoidance	Negative	-0.263***	-	Supported
H2a	Expectedness → Perceived Objectivity → Online Information Avoidance	Mediation	-	-0.040**	Supported

H2b	Expectedness → Trust in Source → Online Information Avoidance	Mediation	-	0.027	Not Supported
H3	Importance → Online Information Avoidance	Negative	-0.125**	-	Supported
H4a	Importance → Perceived Objectivity → Online Information Avoidance	Mediation	-	-0.006	Not Supported
H4b	Importance → Trust in Source → Online Information Avoidance	Mediation	-	-0.006	Not Supported
H5	Valence → Online Information Avoidance	Positive	-0.054	-	Not Supported
H6a	Valence → Perceived Objectivity → Online Information Avoidance	Mediation	-	-0.042**	Supported
H6b	Valence → Trust in Source → Online Information Avoidance	Mediation	-	0.020*	Supported

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

#### 4.2.3 Measurement Model of USA

We analyze the measurement model to assess the construct reliability, convergent validity, indicator reliability, and discriminant validity of the constructs' items. All the first-order constructs in the model are assessed reflectively. Table 28, 29, and 30 show the measurement model results.

**Table 28 Descriptive Statistics, Correlation, and Average Variance Extracted (USA)**

Constructs	Mean	SD	EXP	IMP	VLC	OBJ	SOT	SOF	AOD	JAS	OIA
<b>EXP</b>	4.690	1.541	<b>0.904</b>								
<b>IMP</b>	4.989	1.281	0.046	<b>0.857</b>							
<b>VLC</b>	5.819	1.080	0.014	0.292	<b>0.858</b>						
<b>OBJ</b>	2.873	1.103	0.236	0.049	0.182	<b>0.796</b>					
<b>SOT</b>	4.423	1.515	0.098	0.119	0.039	0.248	<b>0.929</b>				
<b>SOF</b>	4.160	1.411	0.334	0.100	0.096	0.379	0.701	<b>0.910</b>			

<b>AOD</b>	4.090	1.245	0.300	0.078	0.151	0.469	0.450	0.707	<b>0.954</b>		
<b>JAS</b>	4.011	1.282	0.317	0.110	0.136	0.487	0.448	0.653	0.816	<b>0.959</b>	
<b>OIA</b>	2.346	1.154	0.025	0.191	0.167	0.004	0.090	0.097	0.210	0.239	<b>0.828</b>

*Notes:* SD = Standard Deviation; Diagonal elements are square root of average variance extracted (AVE) and off-diagonal elements are correlations; EXP = Expectedness; IMP = Importance; VLC = Valence; SOT = Selectivity of Topics; SOF = Selectivity of Facts; AOD = Accuracy of Depictions; JAS = Journalistic Assessment; OIA = Online Information Avoidance.

Construct reliability is tested using the composite reliability (CR) and our desired cut-off value is 0.70. From Table 29, we can see that for each of the constructs the CR is more than the cut-off value. This shows the constructs are appropriate and internally consistent (Henseler et al., 2009; Straub, 1989). The average variance extracted (AVE) is used to identify the convergent validity, and our desired cut-off value is 0.50. Table 28 shows that for each of the constructs the AVE is more than the cut-off value. This establishes the convergent validity of the measurement model (Fornell & Larcker, 1981; Hair et al., 2012). According to (Churchill, 1979), the item loading should be higher than 0.70 to achieve item reliability. From Table 29 we find that all item loadings are more than the desired value. Thus, the reliability of the items is satisfied.

**Table 29 Loadings and Cross Loadings of Items (USA)**

<b>Constructs</b>	<b>Items</b>	<b>EXP</b>	<b>IMP</b>	<b>VLC</b>	<b>OBJ</b>	<b>SOT</b>	<b>SOF</b>	<b>AOD</b>	<b>JAS</b>	<b>OIA</b>
Expectedness (EXP) CR=0.931	EXP1	<b>0.880</b>	-0.015	-0.109	-0.174	-0.094	-0.280	-0.214	-0.226	-0.004
	EXP2	<b>0.947</b>	-0.072	-0.031	-0.223	-0.090	-0.310	-0.283	-0.291	0.003
	EXP3	<b>0.885</b>	-0.033	0.078	-0.235	-0.084	-0.311	-0.303	-0.329	0.063
Importance (IMP) CR=0.917	IMP1	-0.060	<b>0.906</b>	0.216	0.103	0.121	0.089	0.081	0.108	-0.166
	IMP2	-0.086	<b>0.854</b>	0.319	0.023	0.109	0.117	0.112	0.163	-0.164
	IMP3	-0.008	<b>0.893</b>	0.202	0.057	0.097	0.083	0.060	0.078	-0.165
	IMP4	0.021	<b>0.770</b>	0.275	-0.048	0.074	0.039	-0.011	-0.005	-0.163
Valence (VLC) CR=0.917	VLC1	-0.051	0.248	<b>0.879</b>	-0.156	-0.041	-0.107	-0.194	-0.152	-0.105
	VLC2	0.006	0.240	<b>0.938</b>	-0.186	-0.037	-0.091	-0.120	-0.102	-0.181
	VLC3	-0.068	0.418	<b>0.704</b>	-0.064	0.094	0.005	-0.035	-0.039	-0.094
	VLC4	0.021	0.226	<b>0.892</b>	-0.173	-0.073	-0.091	-0.130	-0.140	-0.167
	OBJ1	-0.206	0.075	-0.122	<b>0.760</b>	0.172	0.299	0.355	0.364	0.003
	OBJ3	-0.176	0.062	-0.115	<b>0.792</b>	0.171	0.238	0.326	0.369	-0.020



Perceived	OBJ4	-0.160	-0.006	-0.199	<b>0.816</b>	0.189	0.304	0.414	0.401	-0.051
Objectivity (OBJ)	OBJ5	-0.205	0.020	-0.148	<b>0.815</b>	0.255	0.364	0.401	0.418	0.049
CR=0.874										
Selectivity of	SOT2	-0.011	0.060	-0.052	0.212	<b>0.888</b>	0.581	0.399	0.390	-0.201
Topics (SOT)	SOT3	-0.121	0.138	-0.044	0.255	<b>0.950</b>	0.688	0.437	0.426	-0.040
CR=0.950	SOT4	-0.135	0.130	-0.016	0.222	<b>0.948</b>	0.680	0.419	0.433	-0.021
Selectivity of	SOF1	-0.292	0.117	-0.055	0.260	0.706	<b>0.915</b>	0.607	0.570	-0.106
Facts (SOF)	SOF2	-0.291	0.068	-0.062	0.356	0.587	<b>0.922</b>	0.710	0.619	-0.109
CR=0.935	SOF3	-0.329	0.088	-0.148	0.422	0.621	<b>0.893</b>	0.611	0.592	-0.049
Accuracy of	AOD2	-0.289	0.091	-0.160	0.457	0.456	0.670	<b>0.953</b>	0.775	-0.170
Depictions (AOD)	AOD3	-0.283	0.046	-0.145	0.459	0.422	0.689	<b>0.964</b>	0.796	-0.202
CR=0.968	AOD4	-0.285	0.087	-0.126	0.426	0.412	0.663	<b>0.945</b>	0.764	-0.231
Journalistic	JAS2	-0.304	0.110	-0.114	0.459	0.434	0.613	0.778	<b>0.958</b>	-0.246
Assessment (JAS)	JAS3	-0.304	0.101	-0.147	0.476	0.426	0.638	0.786	<b>0.959</b>	-0.213
CR=0.958										
	OIA1	0.004	-0.086	-0.197	0.088	0.009	0.035	-0.012	-0.042	<b>0.811</b>
Online Information	OIA2	0.020	-0.104	-0.134	0.038	-0.040	-0.041	-0.082	-0.131	<b>0.858</b>
Avoidance (OIA)	OIA3	0.044	-0.145	-0.072	0.002	-0.055	-0.066	-0.193	-0.217	<b>0.832</b>
CR=0.929	OIA5	0.077	-0.224	-0.104	-0.146	-0.139	-0.167	-0.289	-0.317	<b>0.766</b>
	OIA7	-0.035	-0.159	-0.194	0.060	-0.103	-0.104	-0.210	-0.235	<b>0.858</b>
	OIA8	0.011	-0.212	-0.141	-0.040	-0.102	-0.114	-0.220	-0.211	<b>0.841</b>
<i>Note:</i> CR = Composite Reliability										

To examine the construct's discriminant validity, we use Fornell-Larcker criteria, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al. (2015). The correlation between constructs and the square root of AVE (from Table 28) shows the square root of AVE of each construct (diagonal elements) is more than the correlations between the constructs. This satisfies the first criterion for discriminant validity (Fornell & Larcker, 1981). We also need to check that each construct's loadings are greater than the cross-loadings as the second criterion for discriminant validity (Chin, 1998). From Table 29, we can see that the loadings (in bold) are greater than the cross-loadings in the respective columns. Lastly, Table 30 shows all the HTMT are below the threshold of 0.90. Therefore, the discriminant validity of the constructs is

established. From these analyses, we identify that the constructs are fit to be used in testing the structural model.

**Table 30 Heterotrait-Monotrait (HTMT) Ratio (USA)**

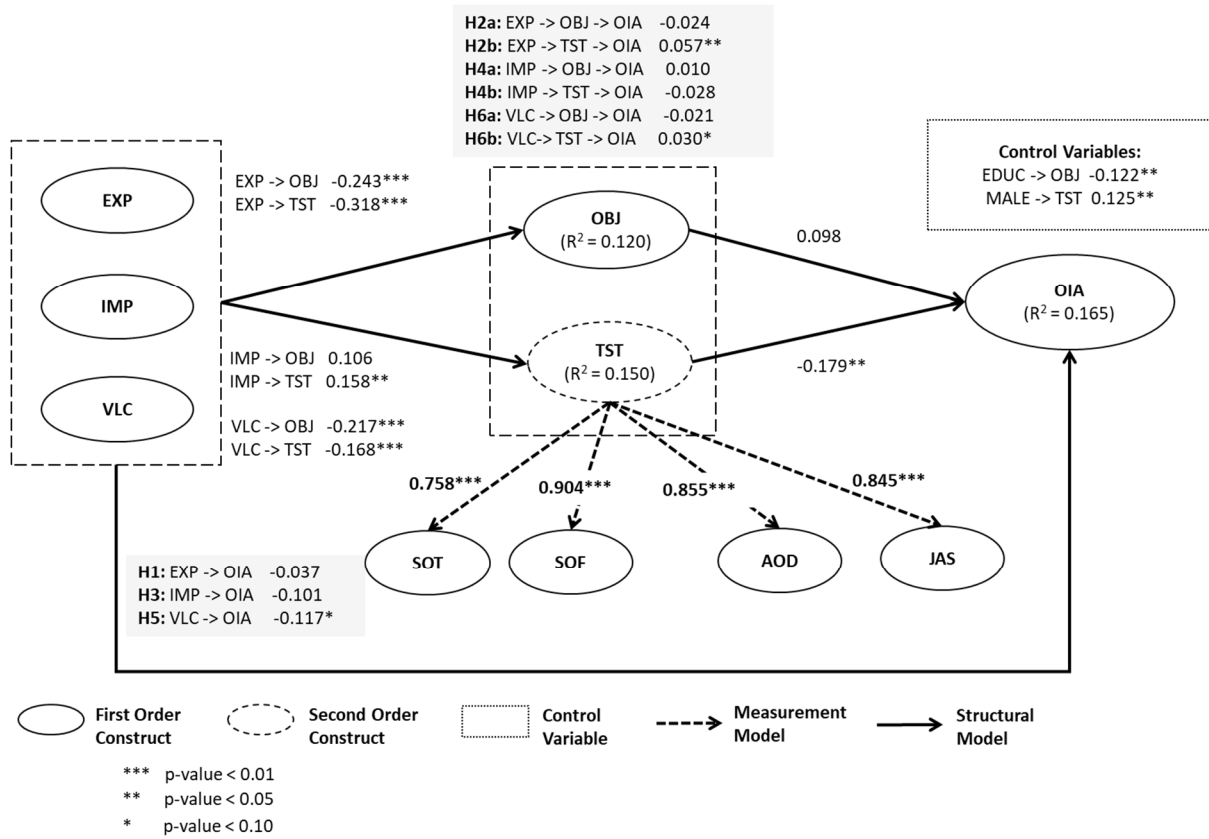
	<b>EXP</b>	<b>IMP</b>	<b>VLC</b>	<b>OBJ</b>	<b>SOT</b>	<b>SOF</b>	<b>AOD</b>	<b>JAS</b>	<b>OIA</b>
<b>EXP</b>									
<b>IMP</b>	0.076								
<b>VLC</b>	0.096	0.375							
<b>OBJ</b>	0.273	0.090	0.201						
<b>SOT</b>	0.106	0.128	0.079	0.286					
<b>SOF</b>	0.372	0.108	0.110	0.446	0.770				
<b>AOD</b>	0.321	0.086	0.152	0.536	0.481	0.765			
<b>JAS</b>	0.347	0.115	0.140	0.568	0.489	0.722	0.876		
<b>OIA</b>	0.049	0.210	0.180	0.100	0.118	0.120	0.220	0.255	

*Notes:* EXP = Expectedness; IMP = Importance; VLC = Valence; SOT = Selectivity of Topics; SOF = Selectivity of Facts; AOD = Accuracy of Depictions; JAS = Journalistic Assessment; OIA = Online Information Avoidance.

#### 4.2.4 Structural Model of USA

We test the multicollinearity of all constructs before assessing the structural model. For that we use Variance Inflation Factor (VIF). Our results show all the construct VIFs are close to or lower than 3, meaning the absence of multicollinearity among the variables (Hair et al., 2019). The structural model results are presented in Figure 9. The statistically significance level of path coefficients were performed using bootstrapping with 5000 resamples.

**Figure 9 Path Co-efficients with Bootstrapping Result (USA)**



Our model explains 12% of the variation in perceived objectivity. We found the association between expectedness and perceived objectivity ( $\hat{\beta} = -0.243$ ; p-value < 0.01) and valence to perceived objectivity ( $\hat{\beta} = -0.217$ ; p-value < 0.01) to be statistically significant. Our model explains 15% of the variation in trust. We found the associations from expectedness to trust ( $\hat{\beta} = -0.318$ ; p-value < 0.01), importance to trust ( $\hat{\beta} = 0.158$ ; p-value < 0.05), and valence to trust ( $\hat{\beta} = -0.168$ ; p-value < 0.01) are statistically significant.

Moreover, our model explains 16.5% of the variation in online information avoidance. We hypothesize expectedness and importance are negatively associated with online information avoidance, and valence is positively associated with online information avoidance. We found the association between valence and online information avoidance ( $\hat{\beta} = -0.117$ ; p-value < 0.10) as

statistically significant, however the path direction is opposite to what we hypothesize.

Moreover, we found the associations from trust to online information avoidance ( $\hat{\beta}=-0.179$ ; p-value  $<0.05$ ) is statistically significant, but the path direction is opposite to theoretical prediction.

Table 31 summarize the supported hypotheses with direct and indirect effects.

Using the mediation mechanism, the result show that trust is a significant mediator between the relationship of expectedness and online information avoidance. Through the trust in source channel, expectedness increases online information avoidance significantly ( $\hat{\beta}=-0.057$ ; p-value  $<0.05$ ). Trust is also a significant mediator for the relationship between valence and online information avoidance. Valence increases the online information avoidance through the trust channel ( $\hat{\beta}=0.030$ ; p-value  $<0.10$ ).

The results allow us to conclude that valence is an important inhibitor for online information avoidance in the USA which is opposite than what we hypothesize. However, valence drives online information avoidance through the mediation of trust. Moreover, expectedness also drives online information avoidance through the trust mediation channel.

**Table 31 Bootstrapping Result for Structural Model (USA)**

#	Path	Hypothesis	Direct effect	Indirect effect	Conclusion
H1	Expectedness → Online Information Avoidance	Negative	-0.037	-	Not Supported
H2a	Expectedness → Perceived Objectivity → Online Information Avoidance	Mediation	-	-0.024	Not Supported
H2b	Expectedness → Trust in Source → Online Information Avoidance	Mediation	-	0.057**	Supported
H3	Importance → Online Information Avoidance	Negative	-0.101	-	Not Supported

H4a	Importance → Perceived Objectivity → Online Information Avoidance	Mediation	-	0.010	Not Supported
H4 b	Importance → Trust in Source → Online Information Avoidance	Mediation	-	-0.028	Not Supported
H5	Valence → Online Information Avoidance	Positive	-0.117*	-	Supported
H6a	Valence → Perceived Objectivity → Online Information Avoidance	Mediation	-	-0.021	Not Supported
H6 b	Valence → Trust in Source → Online Information Avoidance	Mediation	-	0.030*	Supported

\*\*\* p-value < 0.01    \*\* p-value < 0.05    \* p-value < 0.10

#### 4.2.5 MICOM Analysis (Poland vs USA)

After these analysis, we run three-step measurement invariance of composite models (MICOM) test (Cheah et al., 2020) to check whether we can run an analysis by combining these two datasets. MICOM first step configural invariance is achieved by making sure both wave models include the same indicators and constructs. Running the PLS Blindfolding automatically ensures configural invariance and satisfies the MICOM first step. MICOM second step compositional invariance shows (Table 32), all the construct's p-values are insignificant indicating compositional invariance is achieved.

**Table 32 MICOM Step 2 (Poland vs USA)**

Constructs	Original Correlation	Correlation Permutation Mean	5.0%	Permutation p- Values
Expectedness	0.9979	0.9963	0.9868	0.4890
Importance	0.9983	0.9931	0.9805	0.8010
Valence	0.9986	0.9950	0.9844	0.7670
Perceived Objectivity	0.9933	0.9949	0.9862	0.2700
Selectivity of Topics	0.9998	0.9998	0.9992	0.3510

Selectivity of Facts	0.9999	0.9999	0.9998	0.1360
Accuracy of Depictions	1.0000	1.0000	0.9999	0.4870
Journalistic Assessment	0.9999	0.9999	0.9997	0.1760
Online Information Avoidance	0.9941	0.9978	0.9930	0.0750

MICOM third step composite equality assessment shows (Table 33) expectedness, importance, perceived objectivity, selectivity of topics, and accuracy of depictions can not fulfill the invariance criteria. Thus, MICOM establishes combining the two country's data will induce bias and only the separate analysis is valid.

**Table 33 MICOM Step 3 (Poland vs USA)**

Constructs	Mean	Permutation p-	Variance	Permutation p-
	Difference	Values	Difference	Values
Expectedness	0.0965	0.2550	-0.3484	<b>0.0020</b>
Importance	-0.3205	<b>0.0000</b>	-0.0391	0.7390
Valence	-0.1457	0.0770	0.1698	0.1960
Perceived Objectivity	0.1807	<b>0.0300</b>	0.1230	0.3310
Selectivity of Topics	0.1196	0.1590	-0.3576	<b>0.0010</b>
Selectivity of Facts	0.1352	0.1020	-0.2705	0.0190
Accuracy of Depictions	0.1443	0.0870	-0.3694	<b>0.0050</b>
Journalistic Assessment	0.0927	0.2560	-0.1777	0.1420
Online Information Avoidance	0.0498	0.5330	-0.1760	0.2060

#### 4.2.6 Robustness of Health Crisis Model Results

To support our finding from the PLS-SEM analysis, we run Importance-Performance Map Analysis (IPMA). IPMA extends the PLS-SEM result by considering the performance of all the predictor constructs in explaining a target construct (Hair Jr et al., 2017). In this study, IPMA is defined as the two-dimensional grid based on importance and performance of the predictors (Ahmad & Afthanorhan, 2014) in predicting online information avoidance during war. Our Poland and USA data results show that, according to the absolute value of the importance expectedness and trust in source play the most significant roles in explaining online information

avoidance. Moreover, our analysis reveals that valence is the most significant construct in explaining the performance of online information avoidance. Appendix E shows the graphical representation of the results of IPMA.

**Table 34 Importance-Performance Map Analysis of Humanitarian Crisis Model**

Constructs	Standardized Measures on Online Information Avoidance			
	Poland		USA	
	Importance	Performance	Importance	Performance
<b>Independent Variable</b>				
Expectedness	<b>0.275</b>	63.903	0.004	61.504
Importance	0.137	59.662	0.119	66.491
Valence	0.129	<b>77.290</b>	0.108	<b>80.316</b>
<b>Moderator Variable</b>				
Perceived Objectivity	0.216	33.647	0.098	31.216
Trust in Source	0.129	54.094	<b>0.179</b>	51.604
<b>Control Variable</b>				
Age	0.143	16.346	0.025	54.233
Education	0.100	30.161	0.010	35.044
Male	0.108	72.258	0.022	49.474

Moreover, we also run Artificial Neural Network (ANN) analysis to find out the bias-corrected importance of each predictor variable (Lee et al., 2020). We try four models for each of the two datasets. Model 1 tests the prediction model with 1 hidden hyperbolic tangent layer, model 2 tests 2 hidden hyperbolic tangent layer, model 3 tests 1 hidden sigmoid layer, and model 4 tests 2 hidden sigmoid layers. Table shows the results of the analysis and Appendix D includes the ANN models' graphical representations. The Poland's average Root Mean Squared Error (RMSE) is 0.390. The four models consistently indicate expectedness as the most important predictor of online information avoidance. The models also show importance significant explanatory variable of online information avoidance. The USA's average Root Mean Squared Error (RMSE) is 0.463. The four models consistently indicate valence as the most important predictor of online information avoidance. The models also show importance and trust in source

are significant explanatory variables of online information avoidance. These findings are consistent with both the PLS-SEM and IPMA analysis.

**Table 35 Artificial Neural Network Analysis of Health Crisis Model**

Constructs	Target: Online Information Avoidance			
	Model 1	Model 2	Model 3	Model 4
	Importance	Importance	Importance	Importance
Summer 2020 Wave: Average Root Mean Squared Error 0.390				
<b>Independent Variable</b>				
Expectedness	<b>0.212</b>	<b>0.200</b>	<b>0.240</b>	<b>0.213</b>
Importance	<b>0.168</b>	0.106	<b>0.198</b>	0.170
Valence	0.066	0.102	0.072	0.104
<b>Moderator Variable</b>				
Perceived Objectivity	<b>0.159</b>	<b>0.187</b>	<b>0.224</b>	<b>0.183</b>
Trust in Source	0.126	<b>0.214</b>	0.168	<b>0.184</b>
<b>Control Variable</b>				
Age	0.101	0.108	0.063	0.039
Education	0.095	0.064	0.004	0.049
Male	0.072	0.020	0.030	0.057
Summer 2022 Wave: Average Root Mean Squared Error 0.463				
<b>Independent Variable</b>				
Expectedness	0.078	0.125	0.112	0.007
Importance	0.104	0.084	0.125	<b>0.300</b>
Valence	<b>0.218</b>	<b>0.182</b>	<b>0.184</b>	<b>0.219</b>
<b>Moderator Variable</b>				
Perceived Objectivity	0.083	0.057	0.082	0.042
Trust	<b>0.182</b>	<b>0.227</b>	0.134	<b>0.256</b>
<b>Control Variable</b>				
Age	<b>0.195</b>	<b>0.191</b>	<b>0.194</b>	0.104
Education	0.078	0.098	<b>0.139</b>	0.060
Male	0.063	0.034	0.031	0.011



## CHAPTER V: DISCUSSION AND IMPLICATION

Extant literature has found that intrinsic motivation drives the positive behavioral outcome. Singh (2016) argues that intrinsic motivation is influential in achieving higher employee engagement in a dynamic work environment. Additionally, intrinsic motivation is an essential factor in driving online information sharing on social media (Chen et al., 2019). Based on the total effect of our model of wave 1 (year 2020), we found an opposite result - that intrinsic motivation increases online information avoidance. This surprising finding makes intuitive sense in the context of a crisis such as COVID-19 pandemic. However, in our second wave of data collection in 2022 we do not similar result. Moreover, in our pooled cross-section model we again find that intrinsic motivation is driving online information avoidance. That indicates crisis uncertainty has an impact on individual's behavior. We discuss this finding below.

Our research found identified regulation, i.e., an individual's self-determined motivation, as an online information avoidance inhibitor. This is evident for our first and second wave of data collection and for our pooled cross section model as well. Extant literature regarding identified regulation and information acquisition behavior indicates when people can assess the importance of the information using self-evaluation and when people have control to decide which information to consume, then information avoidance becomes less (Dubnjakovic, 2017). Dubnjakovic (2018) found identified regulation to negatively influence information avoidance in education and learning contexts. Wang (2016) found identified regulation as a factor for lower information avoidance on the social networking platforms.

Also, our research shows that people avoid online information if they are exposed to the feeling of fear. This result is also similar in both of the waves and the pooled cross-section model. People tend to avoid fear for mental wellbeing and will avoid any kind of information

that drives the feeling of fear. Also, from the two waves and pooled-cross section analysis we find people avoid information during a crisis when the external regulation (i.e., pressure to comply with a policy) increases. People do not like force or coercion. If people feel pressured by online communication during a crisis or are obliged to follow specific recommendations, they will avoid that information (Sweeny et al., 2010). At a practical level, these results suggest that crisis-related online communication needs to focus on reducing fear and compliance pressure for lower information avoidance from the public.

Moreover, extant literature on information avoidance identified response efficacy, optimism, and coping self-efficacy as psychological predictors of information avoidance (Howell & Shepperd, 2016; Miles et al., 2008). In model, we use these predictors as mediating variables between fear and situational motivation variables. From the data of our first wave in 2020 we see, from the Figure 2, individuals' optimism decreases online information avoidance during a crisis ( $\beta=-0.288$ ; p-value  $<0.01$ ), and from the Table 5, we find optimism partially mediates the relation between fear, intrinsic motivation, and identified regulation with online information avoidance. From the Figure 2, we can also see response efficacy decreases online information avoidance ( $\beta=-0.155$ ; p-value  $<0.01$ ), and from the Table 5, we find it partially mediates the relationship between identified regulation with online information avoidance. Moreover, from the Figure 2, we find coping self- efficacy increases online information avoidance ( $\beta=0.099$ ; p-value  $<0.05$ ), and from the Table 5, we identify it is not a significant mediator variable for fear and situational motivation to online information avoidance.

In the Figure 6, from the data analysis of our second wave in 2022, we find coping self-efficacy increases online information avoidance ( $\beta=0.127$ ; p-value  $<0.01$ ), and from the Table

15, we identify coping self-efficacy partially mediates the relationship between fear and online information avoidance.

From the analysis of the pooled cross-section we see, in the Figure 7, individuals' optimism decreases online information avoidance during a crisis ( $\beta=-0.235$ ; p-value  $<0.01$ ), and from the Table 21, we find optimism partially mediates the relation between fear, identified regulation, and external regulation with online information avoidance. From the Figure 7, we can also see response efficacy decreases online information avoidance ( $\beta=-0.104$ ; p-value  $<0.01$ ), and from the Table 21, we find it partially mediates the relationship between identified regulation with online information avoidance. Moreover, from the Figure 7, we find coping self-efficacy increases online information avoidance ( $\beta=0.224$ ; p-value  $<0.01$ ), and from the Table 21, we identify coping self-efficacy partially mediates the relation between fear, intrinsic motivation, and external regulation with online information avoidance.

Extant literature investigates and establishes what actions or approaches people expect from their information sources. According to Bullock and Hubner (2020), in the context of political communication where people expect to receive contradictory messaging, getting exposed to informal language impacts negative evaluation but people do not limit the consumption. In line with these research insights, we hypothesize that during a humanitarian crisis such as war, people expect to see information that conforms with their worldview, and they also anticipate getting information from conflicting angles. Our results from Poland data confirm this hypothesis. We found the associations from expectedness to online information avoidance ( $\beta=-0.263$ ; p-value  $<0.01$ ) as statistically significant. Extant literature also establishes that people evaluate the importance of using information sources in taking major decisions. Bevan (2003) finds importance play a significant role in expectation violation and can lead to unfriending

decision in social media. Lu and Yuan (2021) find during a disaster, messages that users share news and engage with online information when they recognize the importance of it. we theorize that during a humanitarian crisis such as war, people recognize the importance of information, and the violation of importance leads to lower online information avoidance. Our results from Poland data show that importance decreases online information avoidance ( $\beta=-0.125$ ; p- value  $<0.05$ ) significantly. Confirming the hypothesis our study establishes that in a crisis the importance of the information source impacts their information behavior. From the U.S. data set we do not see any significant relationship between expectedness and online information avoidance as well as importance and online information avoidance. This provides an indication that crisis proximity is playing an important role. People who are away from the crisis do not show similar information behavior to the people who are in the crisis. Also, this allows us to investigate this information avoidance behavior in other crisis such as economic, natural disaster etc. in the future.

Both expectedness and importance show how rational assessment of information source plays role in subsequent information behavior. However, valence is the hedonic and emotional assessment of an information source. Biernat et al. (1999) and Bevan (2003) indicate emotional violation of relationship expectations leads to relationship distancing. We hypothesize that valence of violation from information source is positively associated with online information avoidance in a crisis. Our findings from the USA data show association between valence and online information avoidance ( $\beta=-0.117$ ; p-value  $<0.10$ ) as statistically significant, however the path direction is opposite to what we hypothesize.

Perceived objectivity of an information source indicates higher context quality and higher reputation (Chavarro et al., 2018). Extant literature suggests, in critical political decision-making

context, management of violation expectedness increases the perceived objectivity of the information presented (Seiter et al., 2010). Moreover, crisis literature identifies individual's trust on information source is highly correlated with information consumption over both traditional and social media (Fletcher & Park, 2017; Skovsgaard & Andersen, 2020; Strömbäck et al., 2020). Thus, we hypothesize, perceived objectivity and trust mediates the relationship between expectedness and online information avoidance. From, Poland data our results show that through the perceived objectivity channel, expectedness reduces online information avoidance significantly ( $\beta=-0.040$ ; p-value  $<0.05$ ). However, according to our findings, trust do not mediate the relationship in Poland. That indicate that, in Poland where people are nearer to the crisis, objective channel playing an important role in evaluating information. People objectively look for and evaluate information. However, in the USA we can see, through the trust in source channel, expectedness increases online information avoidance significantly ( $\beta=-0.057$ ; p-value  $<0.05$ ). That also provides insight that people who are closer to the crisis evaluates information more objectively than who are less close. The USA population evaluates the information emotionally and avoid the information if that violates their expectation. We also hypothesize that perceived objectivity and trust mediates the relationship between importance and online information avoidance. From both Poland and USA data set we did not find any mediating relationship of perceived objectivity and trust between source importance and online information avoidance. Moreover, Wright and Roloff (2015) find that it is important to assess the credibility and to signal trustworthiness for maintaining valence and continuous relationship. In our study we hypothesize that both perceived objectivity and trust will mediate the relationship between valence and online information avoidance. From the results of Poland data, we see that, valence reduces online information avoidance significantly through the mediation of perceived

objectivity ( $\beta = -0.042$ ;  $p\text{-value} < 0.05$ ). Also, valence increases online information avoidance significantly through the mediation of trust in source ( $\beta = 0.020$ ;  $p\text{-value} < 0.10$ ). This again establishes that when people evaluate the information from their emotional channel, they tend to avoid information if that violates their expectation. However, if they evaluate the information objectively, expectation violation lead to more information seeking and less information avoidance. Again, from the U.S. data set we can see, trust is a significant mediator for the relationship between valence and online information avoidance. Valence increases the online information avoidance through the trust channel ( $\beta = 0.030$ ;  $p\text{-value} < 0.10$ ).

### **5.1 Theoretical Contributions and Implications**

Our first study has four major theoretical contributions. First, in line with self-determination theory (Vallerand, 2000), we hypothesized that intrinsic motivation would lower online information avoidance. However, our empirical analysis shows the opposite result. A possible explanation for this result can be when individuals are assessing online information without thinking about intended outcome or effectiveness of that information, they tend to classify that piece of information as unimportant and then, they start avoiding that information more. It is already evident that individuals receive a lot of information via online sources and if they do not find any self-regulation or external pressure to consume that information, they would most like avoid that. Our empirical result thus introduces a new debate whether self-imposed or external-imposed information consumption are the only effective way to decrease online information avoidance during a crisis. Second, our findings on identified regulation and online information avoidance during COVID-19 conform to these prior understanding and extend the literature by testing the relationship in the pandemic context. We see that individual's self-regulation in the form of identified regulation decreases online information avoidance during a

crisis. Thus, we can conclude that self-regulation is one of the effective components from self-determination theory that can guide a more effective online information campaign. Third, our model also extends existing knowledge and informs policy by finding fear and external regulation as online information avoidance drivers during a crisis. These findings show us that both fear of learning about the crisis and strict regulatory pressure to consume information reduces an individual's appetite to use the online information. Thus, only self-regulation becomes the major driver for effective online communication during a crisis. Last, prior studies find coping self-efficacy decreases information avoidance (Howell & Shepperd, 2016). We found an opposite but significant relationship contrary to our current understanding. We can tell that if people are more confident about their ability to cope, they will avoid information more during COVID-19. Our new finding might indicate a further explanation for how coping self-efficacy can impact online information avoidance during a pandemic.

Our second study has three major theoretical contributions. First, in line with expectation violation theory (Burgoon & Jones, 1976), we hypothesized that expectedness would lower online information avoidance. Our empirical analysis supports this argument for Poland and not USA. During an active war, when people predict and encounter expectation violation then they do not reduce information consumption. People who are not directly impacted by war, they do not show this behavior. Second, similarly, we hypothesized that importance would lower online information avoidance. Our empirical analysis supports this argument for Poland and not USA. During an active war, when people realize and assess the importance of information source highly then they do not engage in information avoidance. People who are not directly impacted by war, they do not assess the importance of information source actively. Third, we hypothesized that valence would increase online information avoidance. However, our empirical analysis

shows the opposite result. For people near an active war, valence (a positive/negative hedonic construct) is not particularly a useful mechanism to assess the relevance of online information. For people not near an active war, valence (a positive/negative hedonic construct) is a use mechanism to assess the relevance of online information. But, for these demography, valence reduces online information avoidance because they will not stop engaging with information consumption just because of emotional violation.

## **5.2 Implications for Practice**

During COVID-19, people are already very stressed with adverse health and socio-economic consequences. Moreover, people suffer a lot because of increased anxiety and uncertainty resulting from the pandemic (Ho et al., 2020). Intrinsic motivation is a positive psychological factor linked to people's feeling of inner joy and enjoyment. Intrinsic motivation is also linked to how people can keep themselves happy without worrying about external to their thinking (Deci & Ryan, 1985). Thus, during COVID-19 pandemic, people with higher intrinsic motivation avoid online information more because they do not want to face any negativity that will reduce their positive well-being. Recent reports on COVID-19 show people avoid information as it induces negative psychological stimuli and emotional stress (Mitchell et al., 2020; Savage, 2020). Thus, we can identify that people are largely considering COVID-19 related online information as a source of negative emotions and will avoid online information to keep their positive emotions intact. The practical implication is that online communications during a crisis such as COVID-19 need to be framed not to induce negativity and decrease positivity. Otherwise, people will avoid that online information. Hence, people cannot realize the intended benefit of online communications.



This finding is practically significant because it indicates how to make sure people do not avoid critical information during a crisis. During the COVID-19 pandemic, a wide range of online sources for information and news dissemination have emerged, and those sources provide a lot of policy and behavioral recommendations. As COVID-19 pandemic manifested in the midst of the age of social internet, people are getting overwhelmed by the volume of online information that they need to process (Savage, 2020). Our findings suggest that people consume online information more if they can evaluate that information's importance from their self-assessment. We see a popular information sharing platform in this crisis is interactive information dashboards such as John Hopkins COVID-19 dashboard and Worldometer. The primary purpose of information dashboards is to provide an avenue through which people can access recent developments. The interactive nature of the dashboards helps a user to modify the information they want to consume. This information dissemination approach can increase an individual's identified regulation by providing people with higher control over what information they wish to acquire. Our findings indicate that information sources that provide higher control to the users can be useful tools to offer more considerable audiences information during a COVID-19 pandemic crisis.

## CHAPTER VI: CONCLUSION

We identified three limitations and corresponding possible research extensions for both the studies. First, for the study 1, we collected the first wave of data from the U.S. population during the midst of the COVID-19 pandemic in 2020 and the second wave of data during 2022. Using the pooled cross-sectional investigation, we can see the results are exciting and have substantial implications for theory and practice. Further research, however, should extend the findings, not only to other populations but also to other crises and can add more time frames. For the study 2, we collected data from both Poland and the U.S. during the midst of the Russia Ukraine war in 2022. The results show interesting findings and have implications for both theory and practice. Further research can extend the work by adding more time point to it using a longitudinal method. Second, both of our studies use a survey research method to test the hypotheses. While it is possible to draw causal conclusions in an experimental setting, which is a potential future research direction, it is equally compelling to engage in an in-depth interpretive study. Third, our model does not have any moderating variables. In existing information avoidance literature, we see individual differences such as monitoring and blunting, and uncertainty intolerance constructs predicting information avoidance behavior (Sweeny et al., 2010). Such constructs can be used as a moderating variable in the model. Future research should consider evaluating the moderating effects. Fourth, further studies on other contexts such as information security, and economic crises can be undertaken.

Our study 1 investigates how an individual's fear, intrinsic motivation, identified regulation, and external regulation impact online information avoidance. Using self-determination and information avoidance theories, we have argued that fear and external regulation are associated with an increase in online information avoidance. We have also found

that intrinsic motivation and identified regulation are associated with decreased online information avoidance, mediated by an individual's response efficacy, optimism, and coping self-efficacy. Our findings from the first wave of data suggest that fear, intrinsic motivation, and external regulation drive online information avoidance, where intrinsic motivation is the most significant driver among the three. Moreover, we find identified regulation as a crucial inhibitor of online information avoidance. Our mediation analysis suggests a partial mediating effect of response efficacy, optimism, and coping self-efficacy. Our findings from the second wave of data analysis show that fear, intrinsic motivation, and external regulation are important drivers for information avoidance in a crisis. However, in the second wave we found that fear is the most important driver and identified regulation is a significant inhibitor on online information avoidance. In both the wave we found identified regulation is a crucial inhibitor for online information avoidance which can be an important contribution to the literature of crisis. While mainly focusing on COVID-19, our study contributes to the broader information systems research literature and specifically to the information avoidance literature during a crisis. At a practical level, our research suggests that pandemic-related online communication needs to focus on increasing an individual's sense of self-motivation through identified regulation. Our findings suggest that doing so will decrease online information avoidance and decrease intrinsic motivation, not to induce fear, and not to impose compliance pressure from external regulation.

Our study 2 finds how individual's sense of expectation violation can impact their online information avoidance behavior. Using the theories of expectation violation, perceived objectivity, and trust theories, we have argued that expectedness of violation from information source and importance of information source are negatively associated with online information avoidance. Also, valence of violation from information source is positively associated with

online information avoidance. Moreover, these relationships are mediated by perceived objectivity and trust on the information source. Our findings from the data analysis from Poland suggest that the most important inhibitor for online information avoidance is expectedness of violation. Valence drives online information avoidance through the mediation of trust in source. Our findings from the data analysis from U.S. suggest that valence is an important inhibitor for online information avoidance in the USA which is opposite than what we hypothesize. However, valence drives online information avoidance through the mediation of trust. Moreover, expectedness also drives online information avoidance through the trust mediation channel. Focusing on a humanitarian crisis such as Russia-Ukraine war, our study contributes to the broader information systems literature and particularly information avoidance literature in a crisis. We show that information avoidance behavior can be different in the same context in different countries because of their sense of expectation violation, perceived objectivity, and trust in source. At a practical level, our results suggest that people seek information in a crisis with an expectation and they avoid the information when the expectation is violated. However, this behavior might be different based on their proximity to the crisis. The people who are more likely to be affected by the crisis do not avoid information even if their expectation is violated rather, they look for more information. Also, importance of the source plays a significant role in this information avoidance decision.

Our findings will be useful for governments, health organizations, and communities that utilize online platforms, forums, and related outlets to correctly reach larger audiences for disseminating pertinent information and recommendations during a pandemic, humanitarian crisis such as war or other such crisis situations.

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## APPENDIX A: SURVEY INSTRUMENT FOR HEALTH CRISIS MODEL

During a crisis situation such as COVID-19, you are getting lots of information from various online sources. These information are provided to you so that you can keep yourself, your family, and your community safe. While answering the below questions consider the COVID-19 pandemic situation and the online information you receive regarding the crisis. Read each item carefully. Using the scale below, please select the number that best describes your response.

Constructs	Changed Items		Source
I look for COVID-19 related information:			
Intrinsic Motivation	IM1	Because I think the information are interesting.	Guay et al. (2000); Standage and Treasure (2002)
	IM2	Because I think the information are pleasant	
	IM3	Because the information are fun.	
	IM4	Because I feel good when acting on the information recommendations.	
Identified Regulation	IR1	Because I am doing it for my own good	
	IR2	Because I think the information are good for me	
	IR4	Because I believe the information are important for me	
External Regulation	ER1	Because I am supposed to do it	
	ER2	Because it is something that I have to do	
	ER3	Because I don’t have any choice	
	ER4	Because I feel that I have to do it	
Fear	FR1	The thought of COVID-19 scares me	Champion et al. (2004)
	FR2	When I think about COVID-19, I feel nervous	
	FR3	When I think about COVID-19, I get upset	
	FR4	When I think about COVID-19, I get depressed	
	FR5	When I think about COVID-19, I get jittery	
	FR6	When I think about COVID-19, my heart beats faster	
	FR7	When I think about COVID-19, I feel uneasy	
	FR8	When I think about COVID-19, I feel anxious	
During COVID-19 crisis situation, how confident or certain are you that you can do the following:			Chesney et al. (2006)
	PFC1	Break the upsetting COVID-19 problem down into smaller parts	

Problem Focused Coping	PFC2	Sort out what can be changed, and what cannot be changed regarding the crisis of COVID-19	
	PFC5	Think about one part of the COVID-19 problem at a time	
Emotion-Focused Coping	EFC1	Make unpleasant thoughts of COVID-19 go away	
	EFC3	Stop yourself from being upset by unpleasant thoughts of COVID-19	
	EFC4	Keep from feeling sad about COVID-19	
Social Support	SS1	Get friends to help you with the things you need in COVID-19 crisis	
	SS2	Get emotional support from friends and family in COVID-19 situation	
Response Efficacy	RE1	The information was effective in providing a strategy (or strategies) to reduce the impact of COVID-19	Lewis et al. (2010)
	RE2	Adopting the information recommendations would be effective in reducing the impact of COVID-19	
	RE3	The available information from various outlets is useful about how people can reduce their risk of COVID-19	
Optimism	OP2	If something can go wrong for me regarding COVID-19, it will (R)	Scheier et al. (1994)
	OP4	I hardly ever expect things to go my way in a crisis like COVID-19 (R)	
	OP5	I rarely count on good things happening to me in crisis situation like COVID-19 (R)	
Online Information Avoidance	OIA1	I would rather not know about COVID-19 related information during crisis	Howell and Shepperd (2016)
	OIA2	I would avoid learning about the COVID-19 related information during crisis	
	OIA4	When it comes to knowing more information regarding COVID-19, sometimes ignorance is bliss	
	OIA6	I can think of situations in which I would rather not know COVID-19 related information during crisis	

## APPENDIX B: DESCRIPTIVE STATISTICS OF HEALTH CRISIS MODEL

### Survey Respondents of Summer 2020 Wave (N=352)

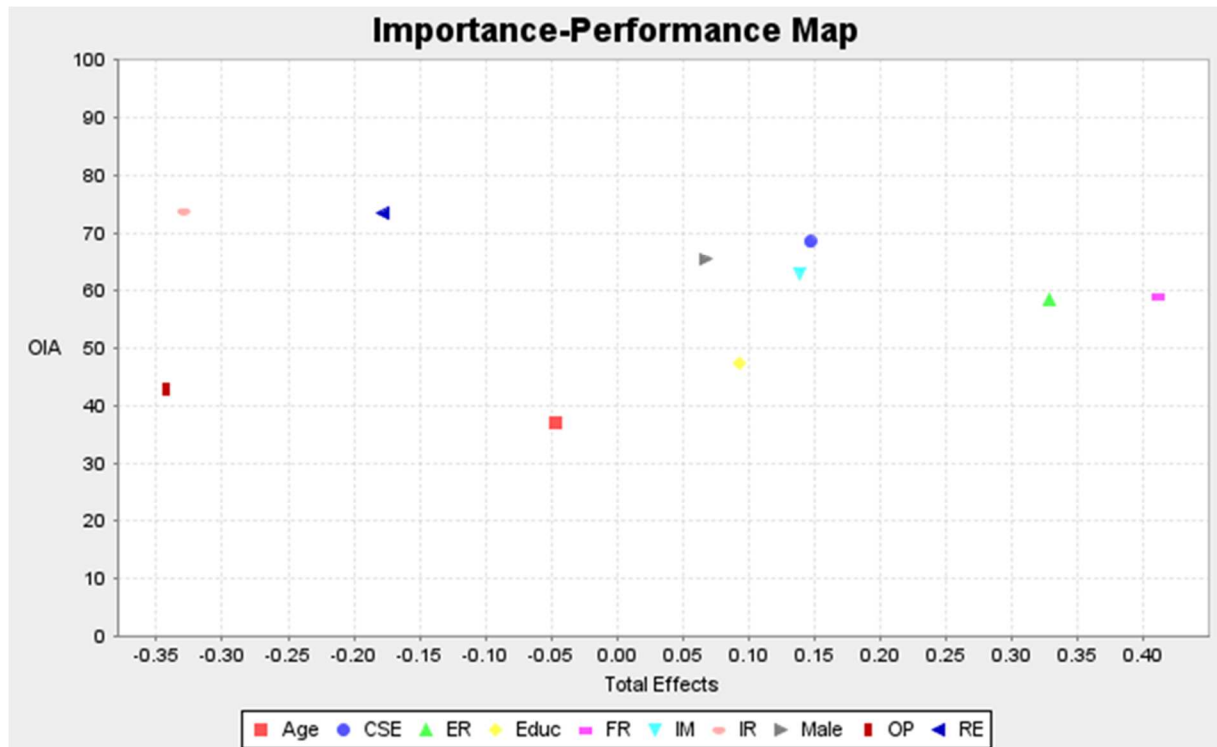
Characteristic	Number of Respondents	% of Total
<b>Gender</b>		
Female	121	34.38%
Male	230	65.34%
Others	1	0.28%
<b>Age Group</b>		
18 to 35 years	202	57.39%
Over 35 to 50 years	96	27.27%
Over 50 years	54	15.34%
<b>Educational Qualification</b>		
Less than an Associate degree	30	8.52%
Associate degree	30	8.52%
Bachelor's degree	202	57.39%
Master's degree	86	24.43%
Doctorate degree and beyond	4	1.14%

*Survey Respondents of Summer 2022 Wave (N=373)*

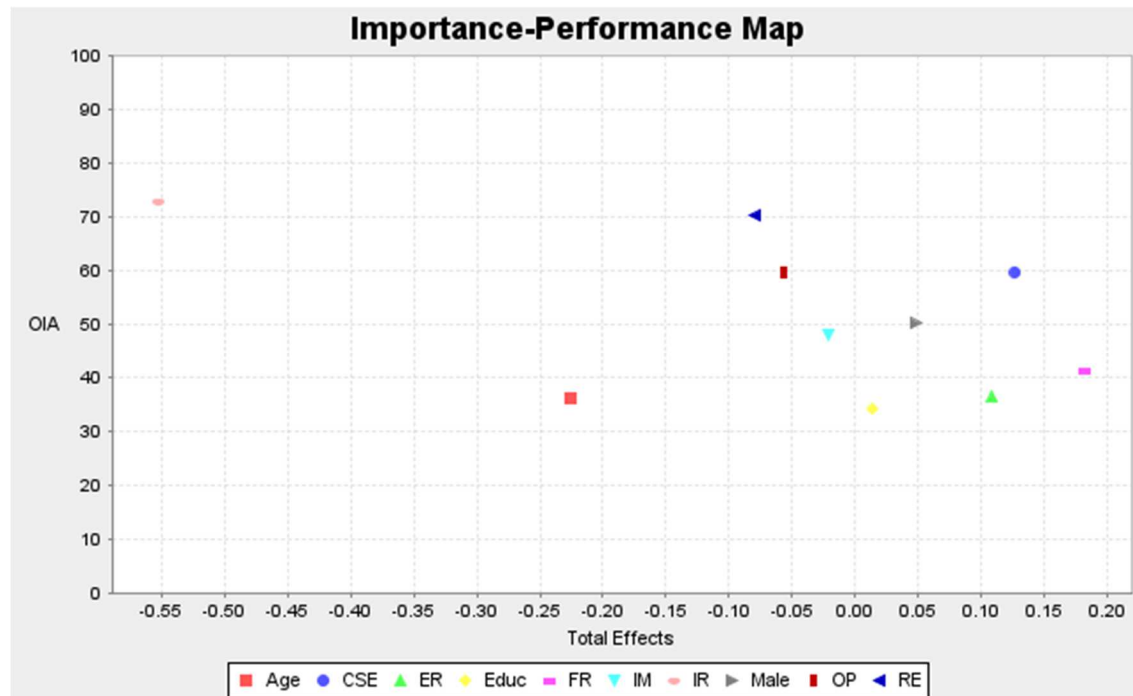
Characteristic	Number of Respondents	% of Total
<b>Gender</b>		
Female	185	49.60%
Male	186	49.87%
Others	2	0.53%
<b>Age Group</b>		
18 to 35 years	203	54.42%
Over 35 to 50 years	109	29.22%
Over 50 years	61	16.36%
<b>Educational Qualification</b>		
Less than an Associate degree	122	32.71%
Associate degree	36	9.65%
Bachelor's degree	166	44.50%
Master's degree	37	9.92%
Doctorate degree and beyond	12	3.22%

## APPENDIX C: IMPORTANCE PERFORMANCE MAP ANALYSIS (STUDY 1)

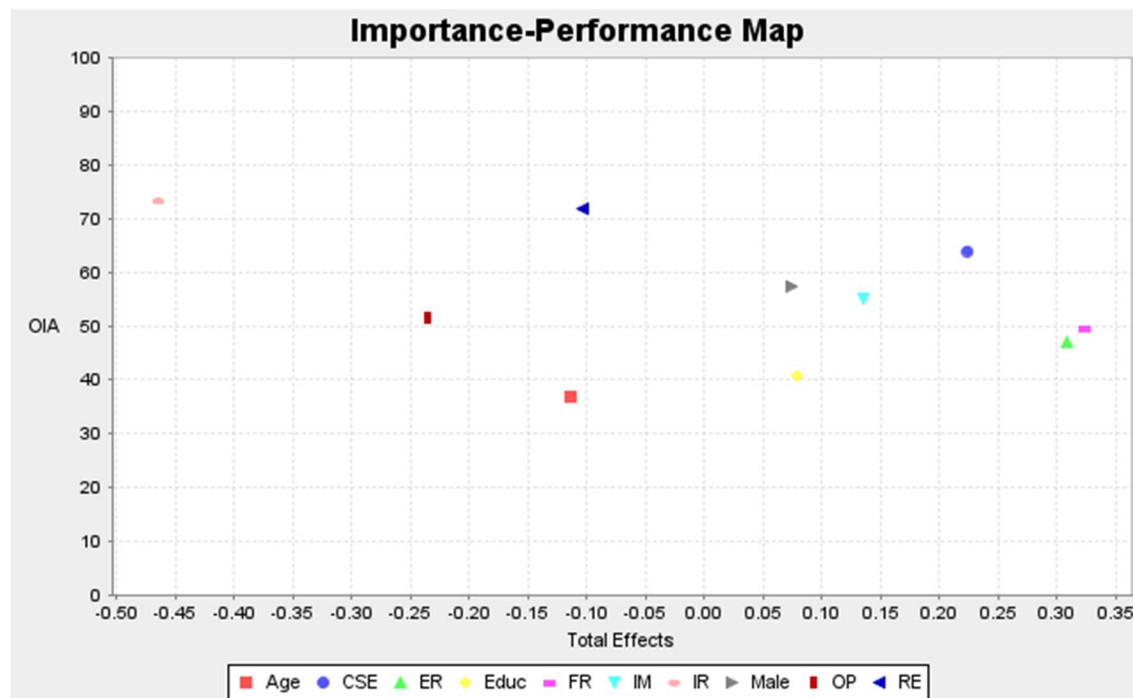
### *Standardized IPMA of Summer 2020 Wave*



*Standardized IPMA of Summer 2022 Wave*



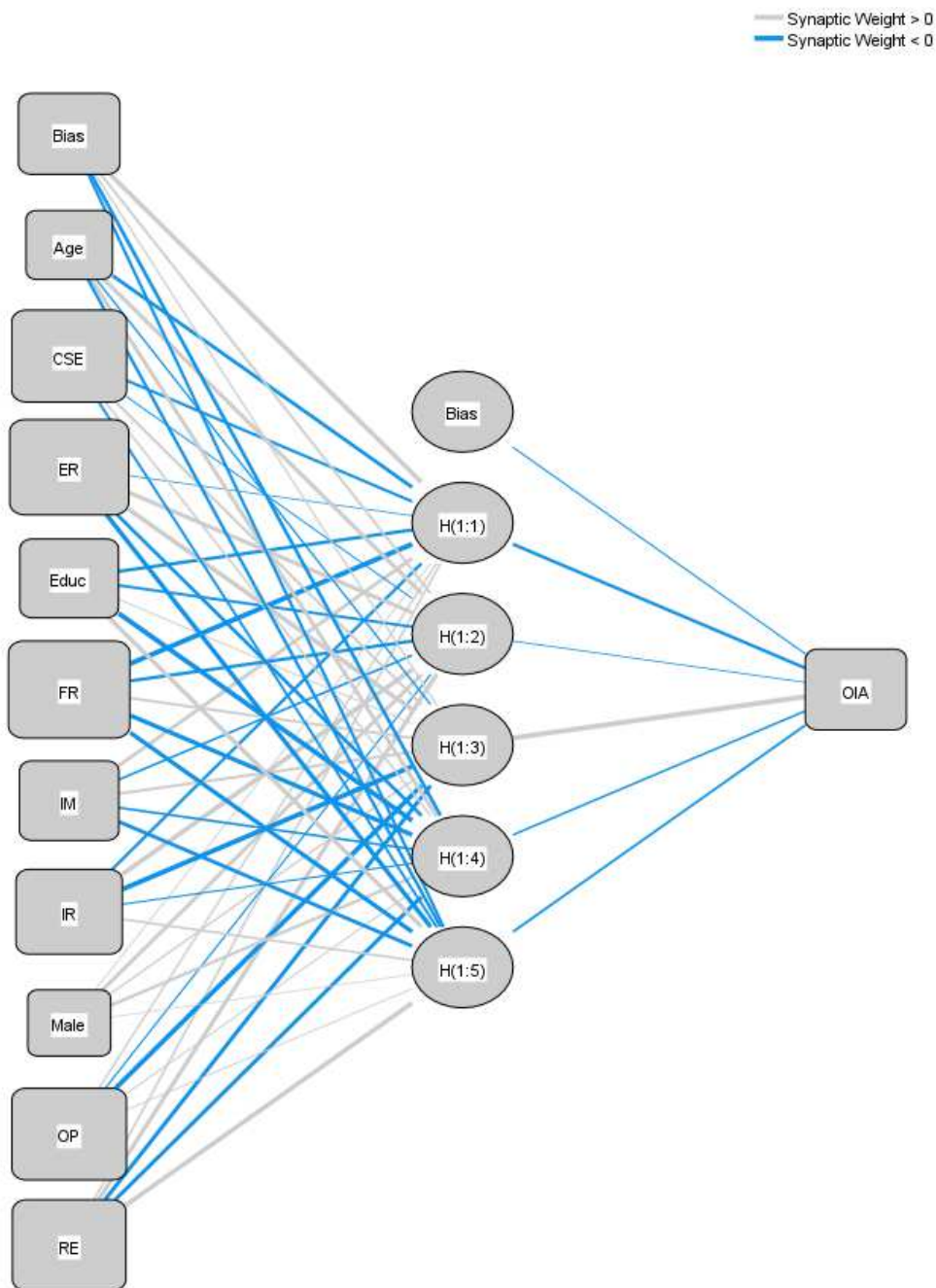
*Standardized IPMA of Combined Waves*



## APPENDIX D: ARTIFICIAL NEURAL NETWORK (ANN) ANALYSIS (STUDY 1)

### ***Summer 2020 Wave***

#### ***Model 1: 1 Hidden Layer with Hyperbolic Tangent Activation Function***

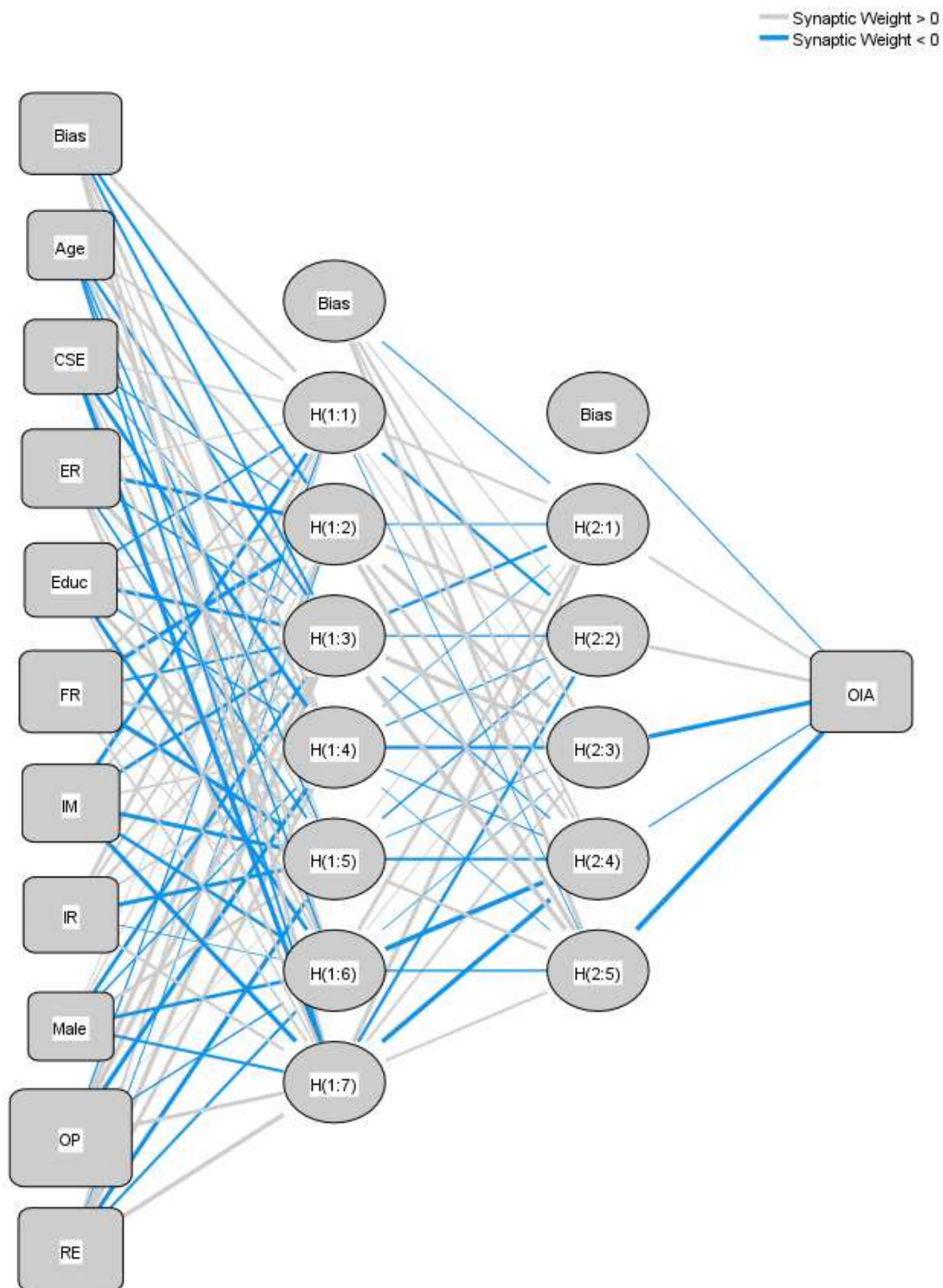


Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity



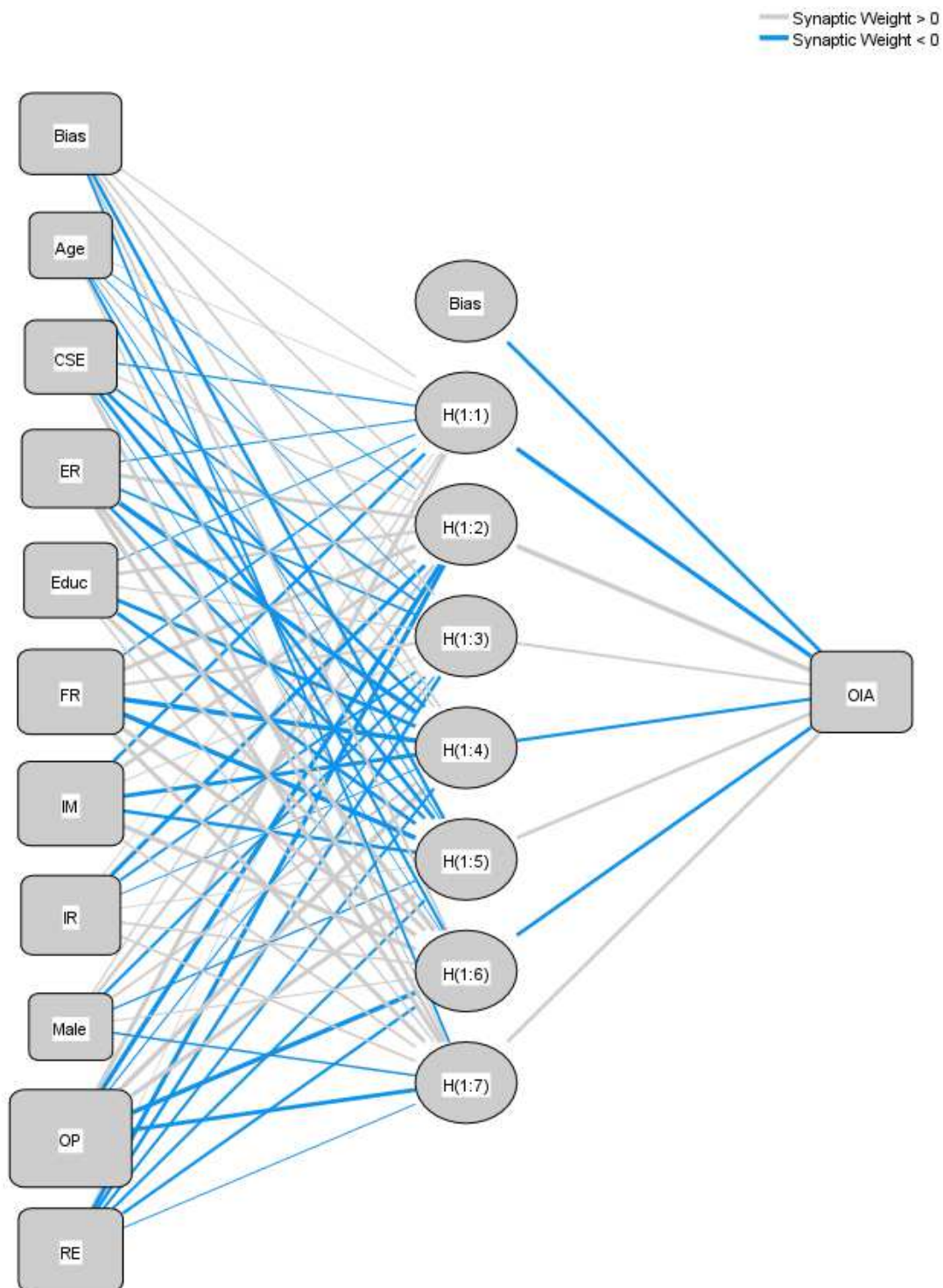
### *Model 2: 2 Hidden Layers with Hyperbolic Tangent Activation Function*



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

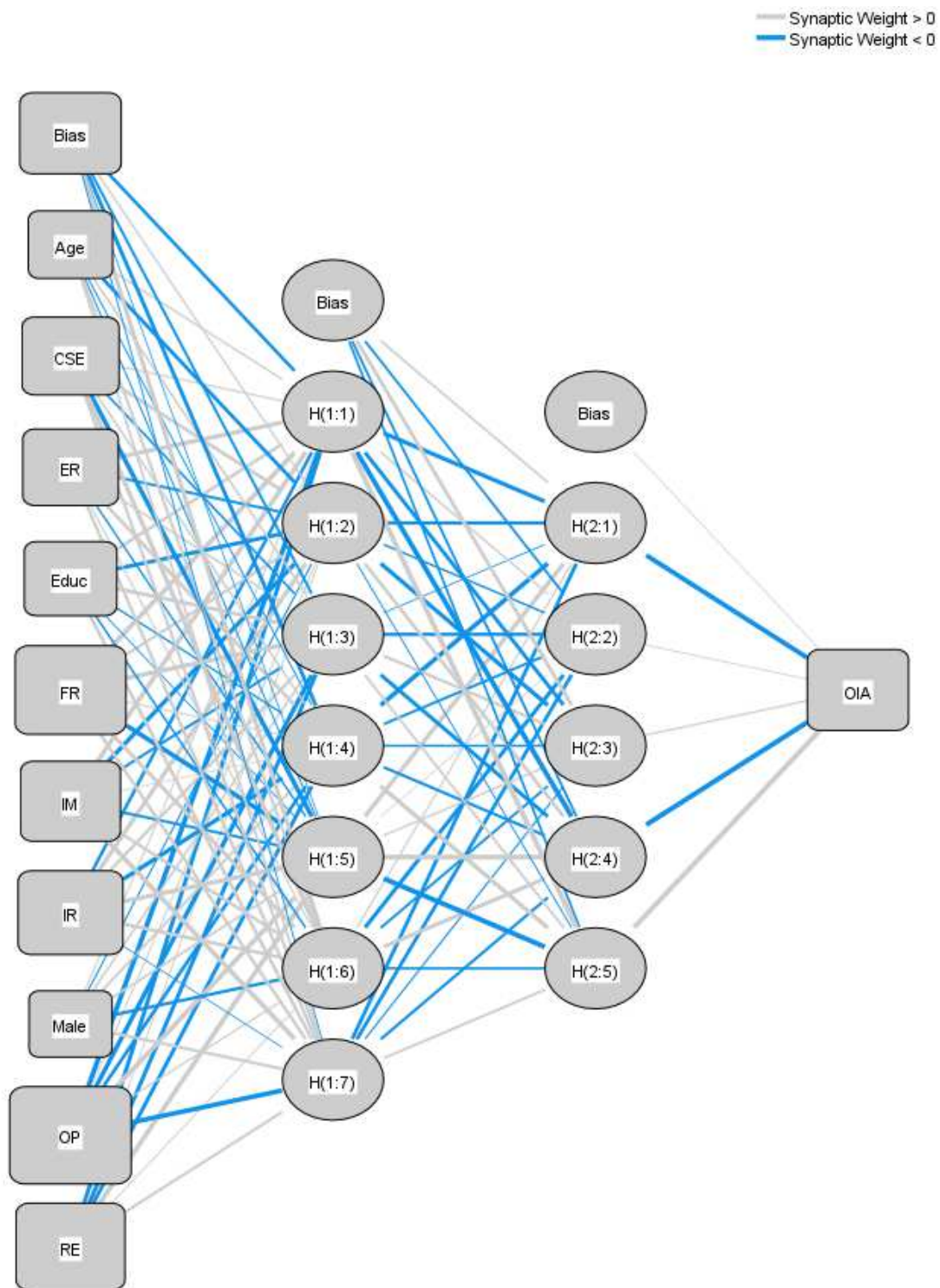
### *Model 3: 1 Hidden Layer with Sigmoid Function*



Hidden layer activation function: Sigmoid

Output layer activation function: Identity

#### ***Model 4: 1 Hidden Layer with Hyperbolic Tangent Activation Function***



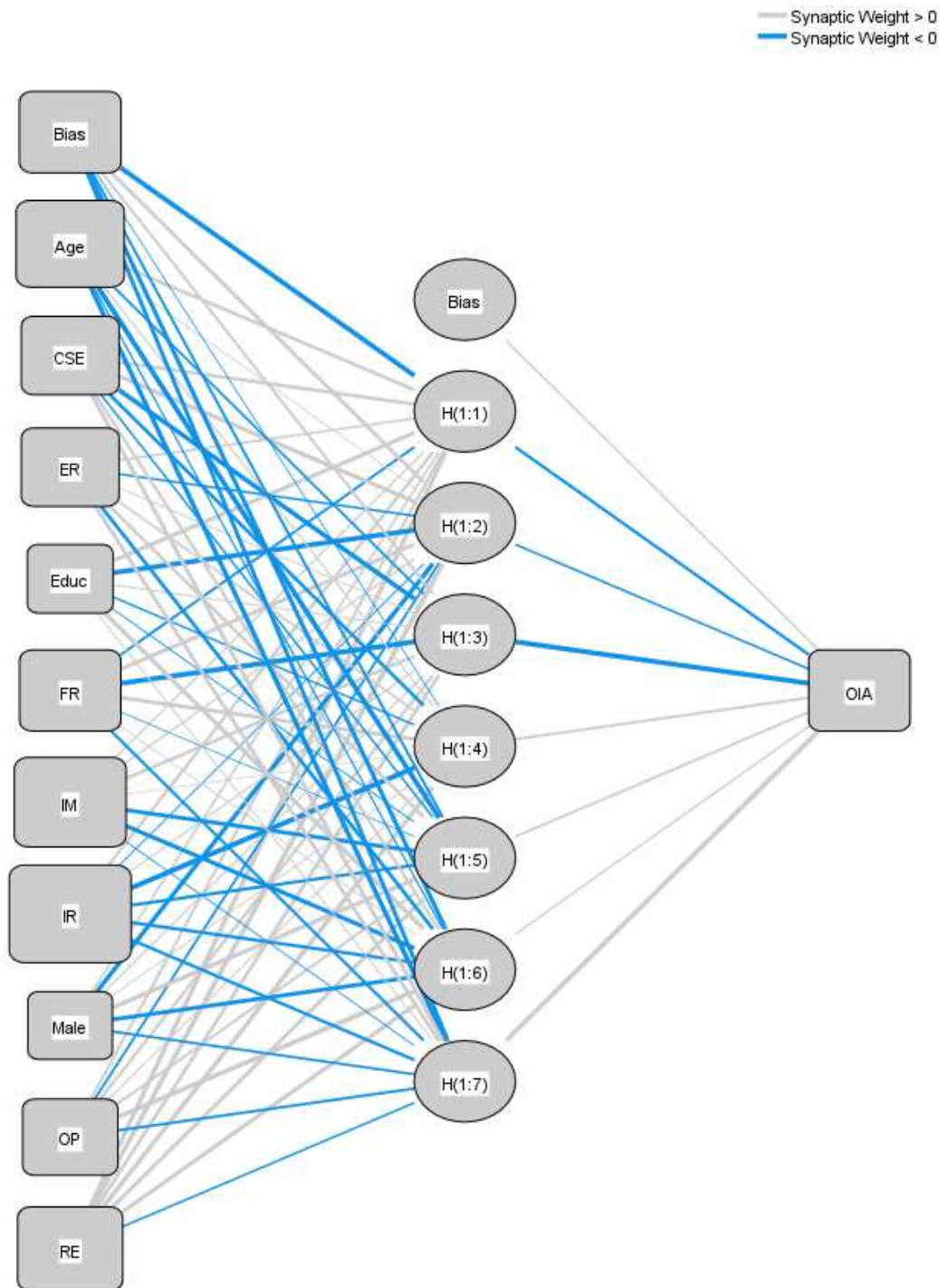
Hidden layer activation function: Sigmoid

Output layer activation function: Identity



**Summer 2022 Wave**

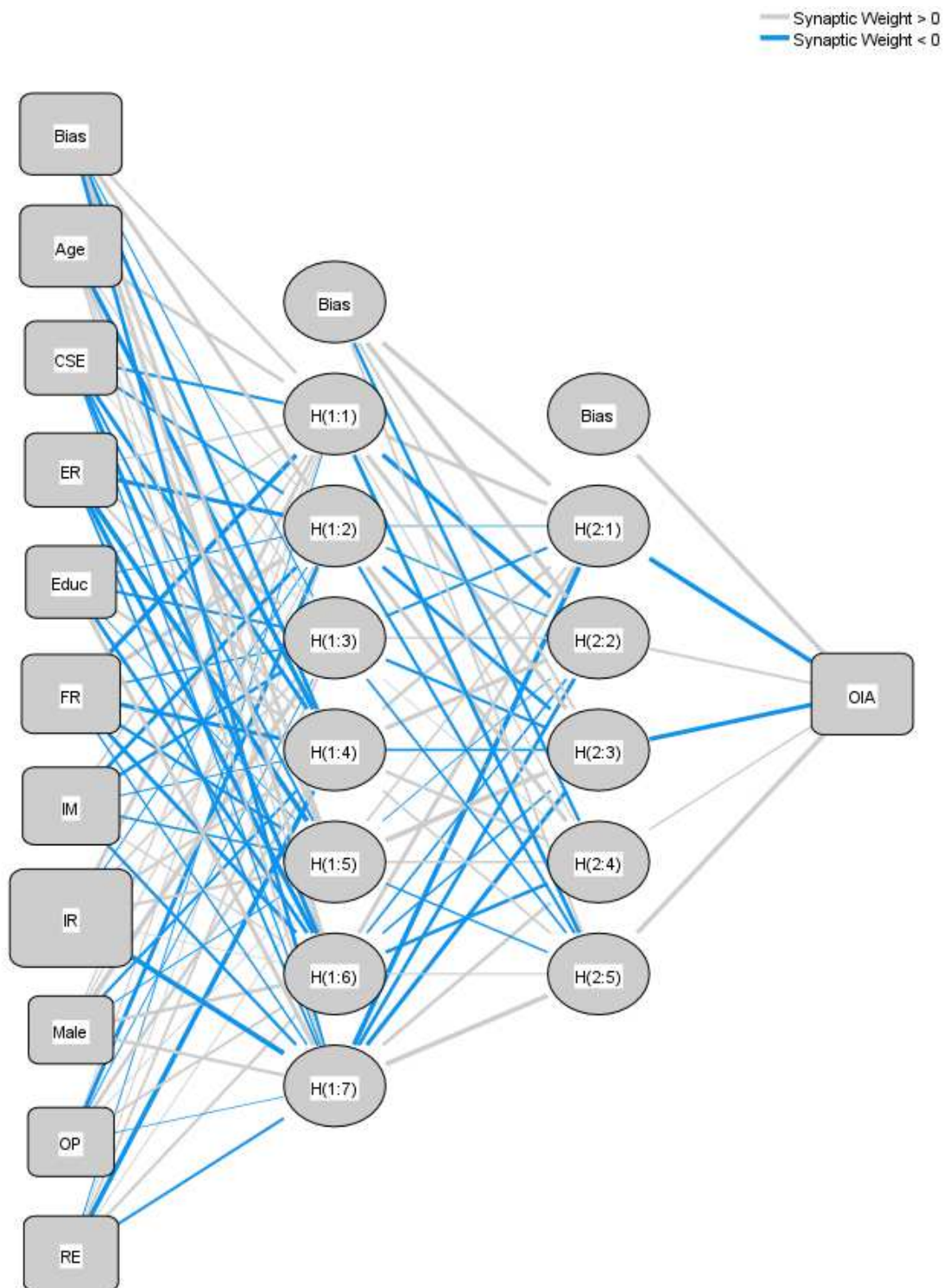
***Model 1: 1 Hidden Layer with Hyperbolic Tangent Activation Function***



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

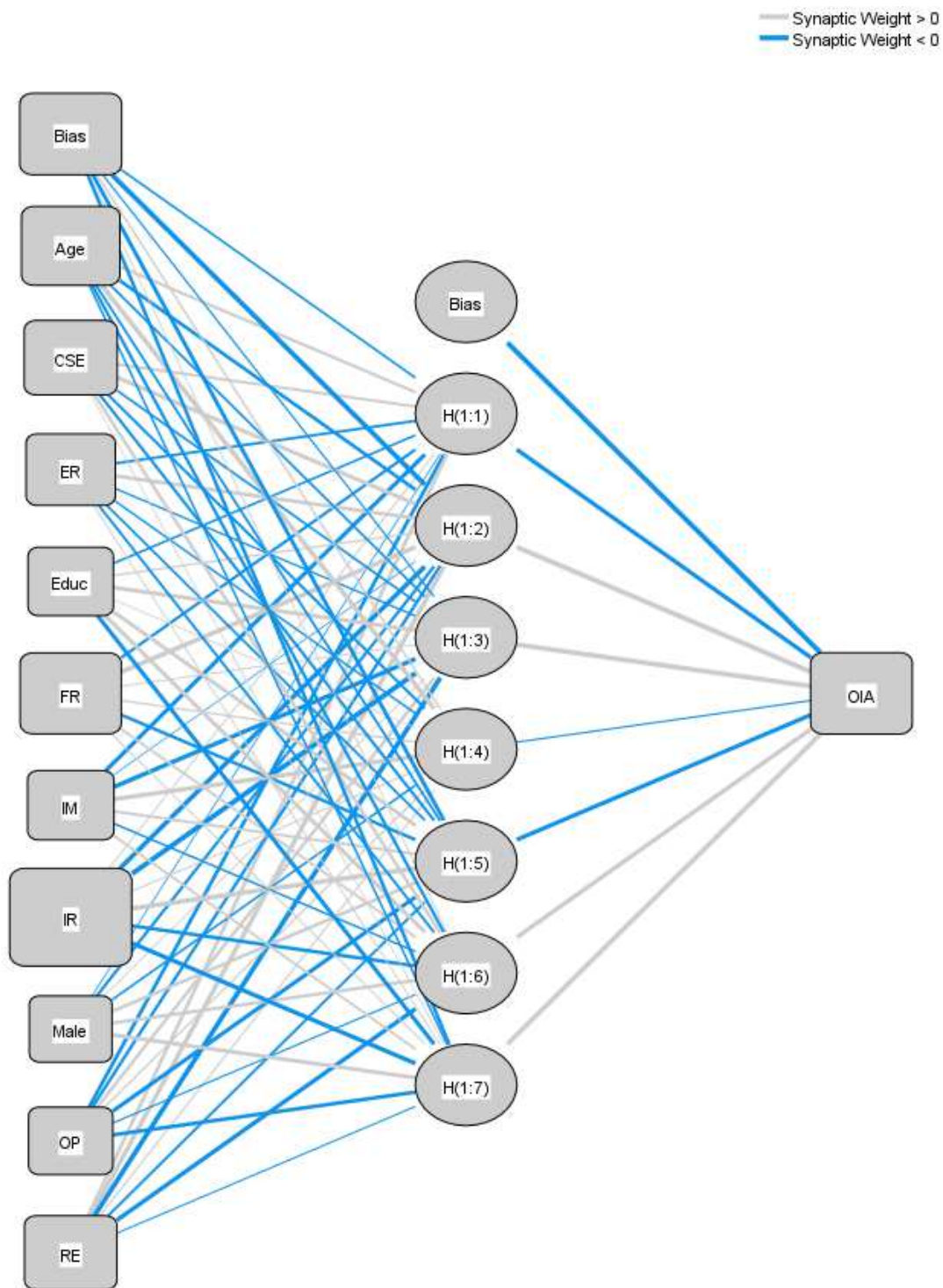
### ***Model 2: 2 Hidden Layers with Hyperbolic Tangent Activation Function***



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

### Model 3: 1 Hidden Layer with Sigmoid Function

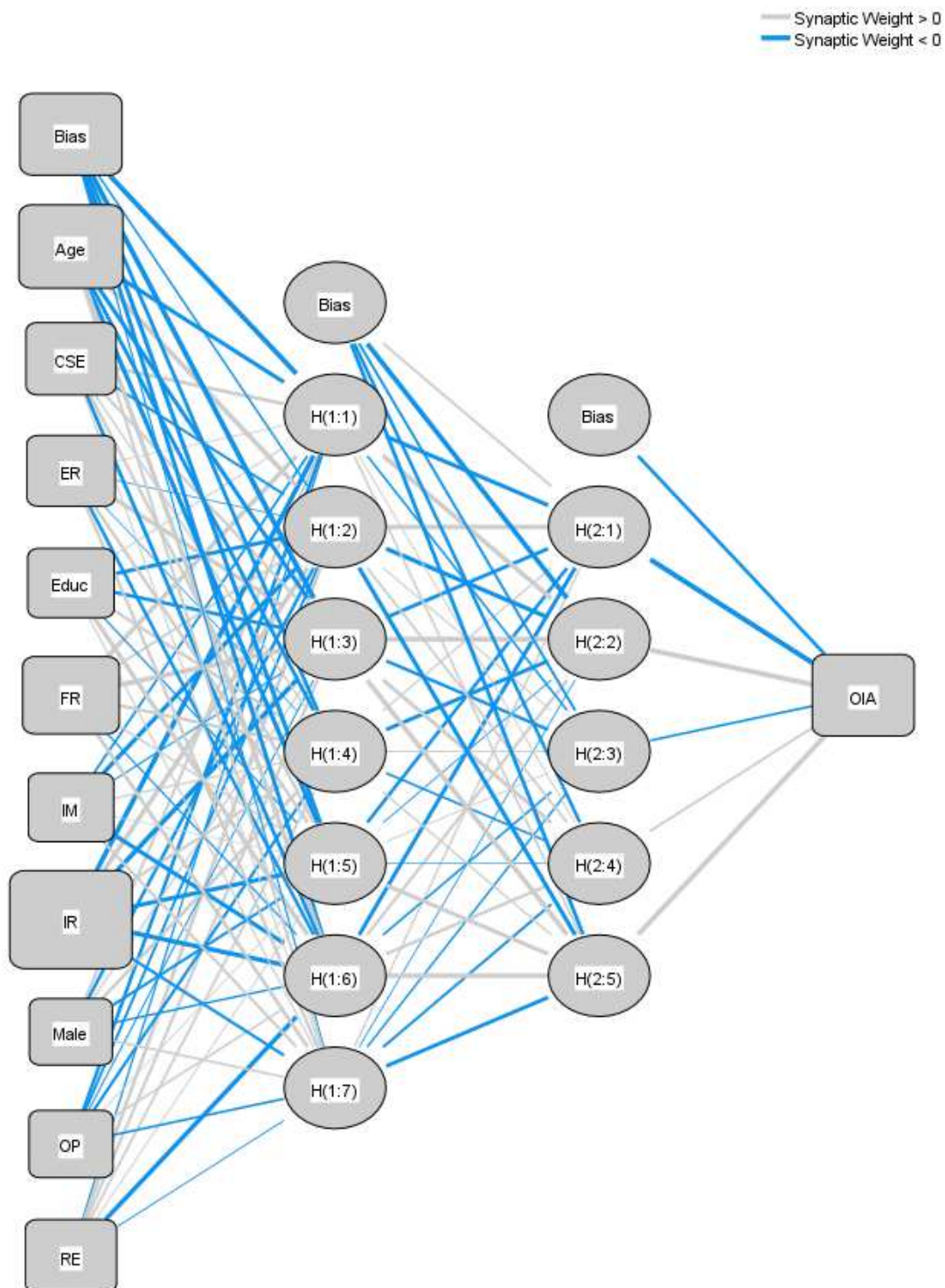


Hidden layer activation function: Sigmoid

Output layer activation function: Identity



***Model 4: 1 Hidden Layer with Hyperbolic Tangent Activation Function***

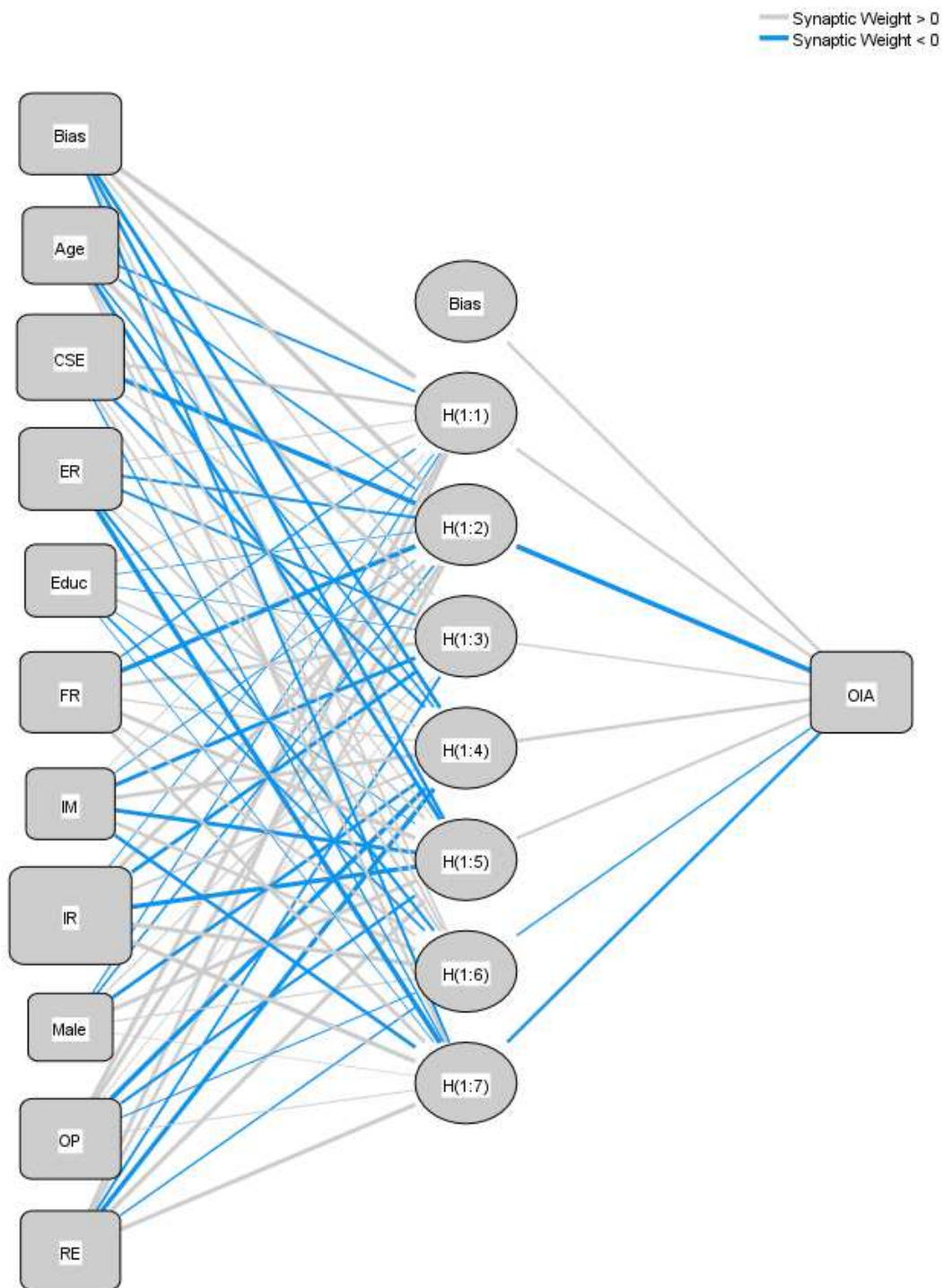


Hidden layer activation function: Sigmoid

Output layer activation function: Identity

## Combined

### *Model 1: 1 Hidden Layer with Hyperbolic Tangent Activation Function*

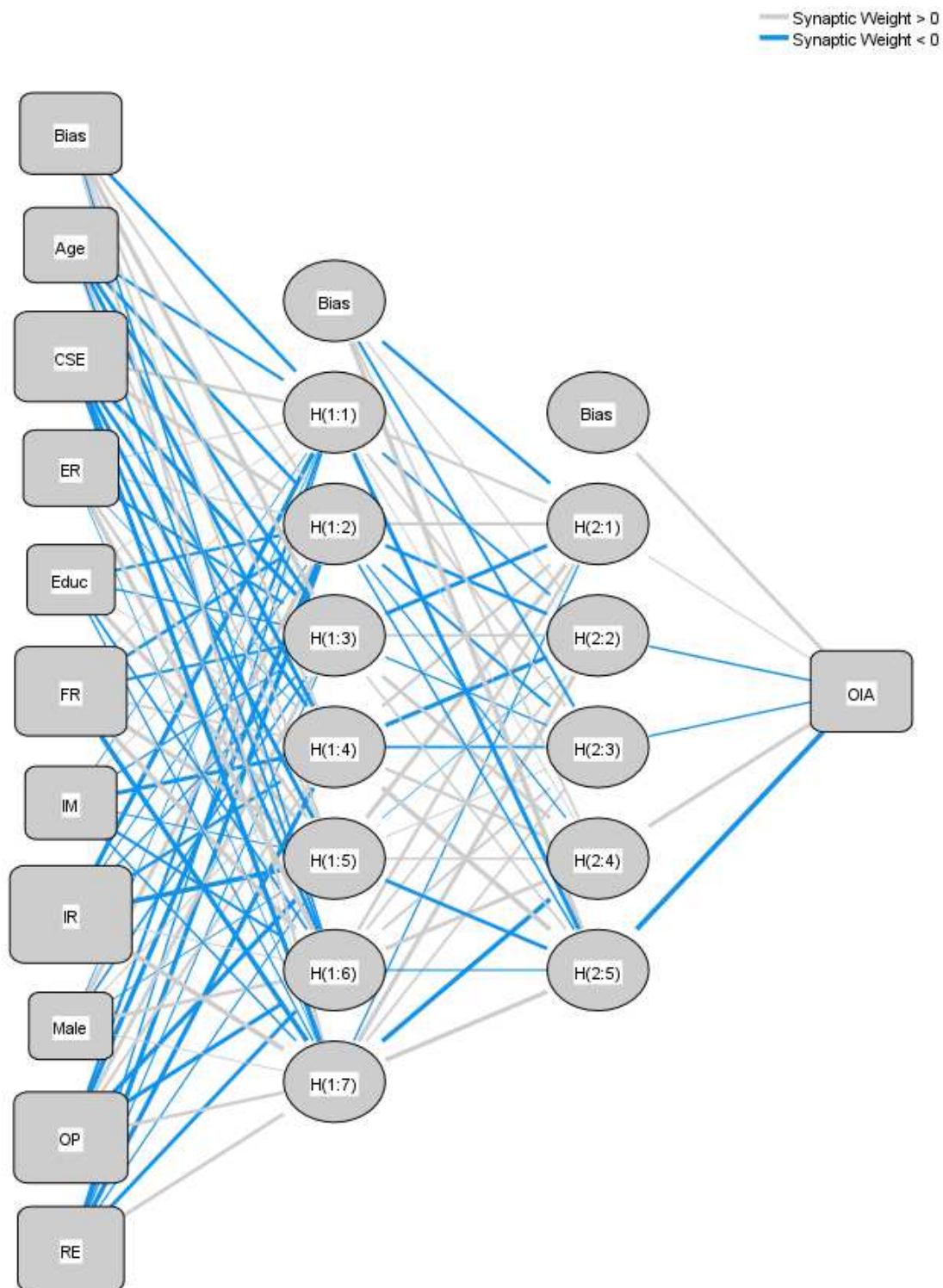


Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity



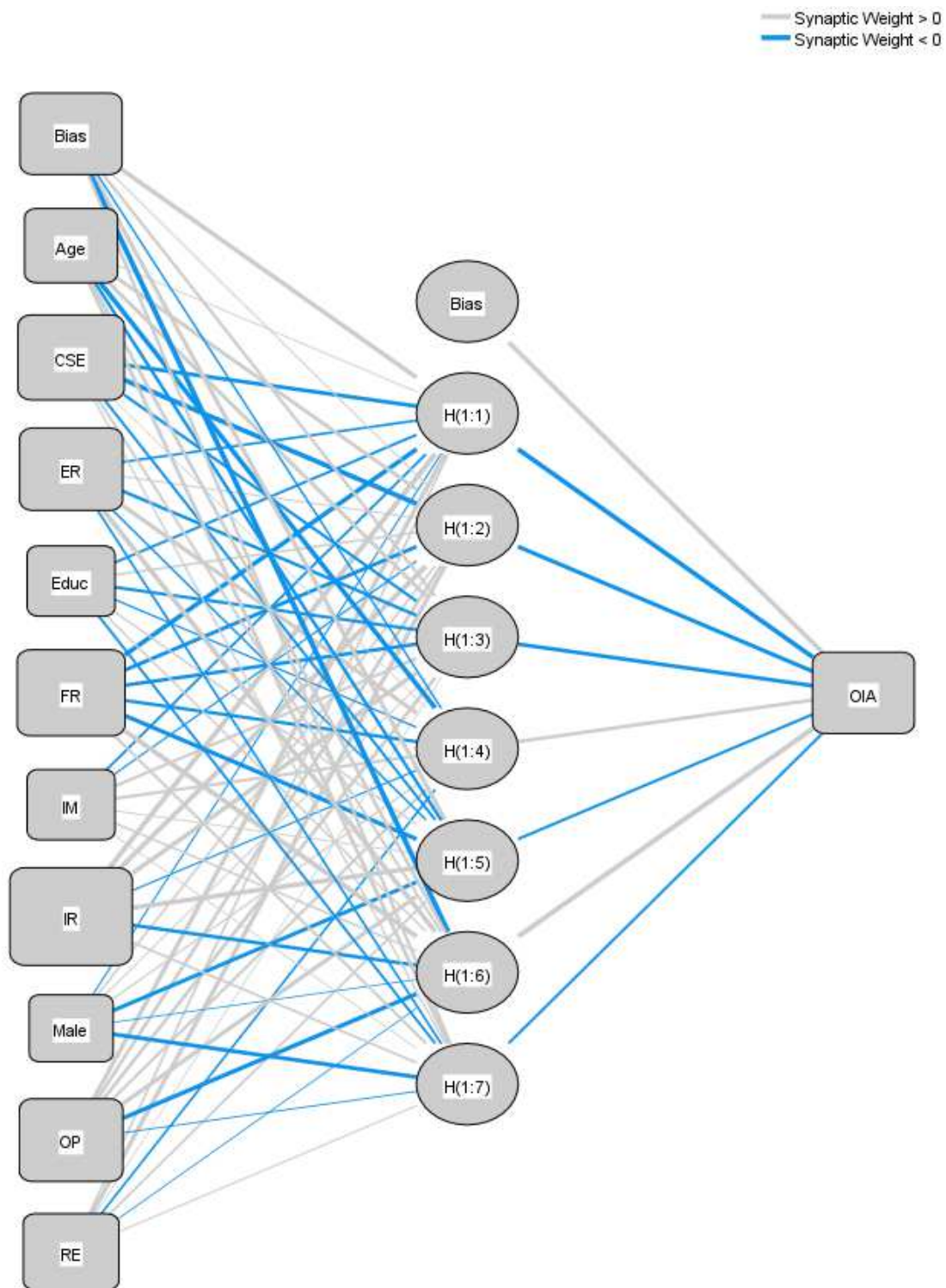
### *Model 2: 2 Hidden Layers with Hyperbolic Tangent Activation Function*



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

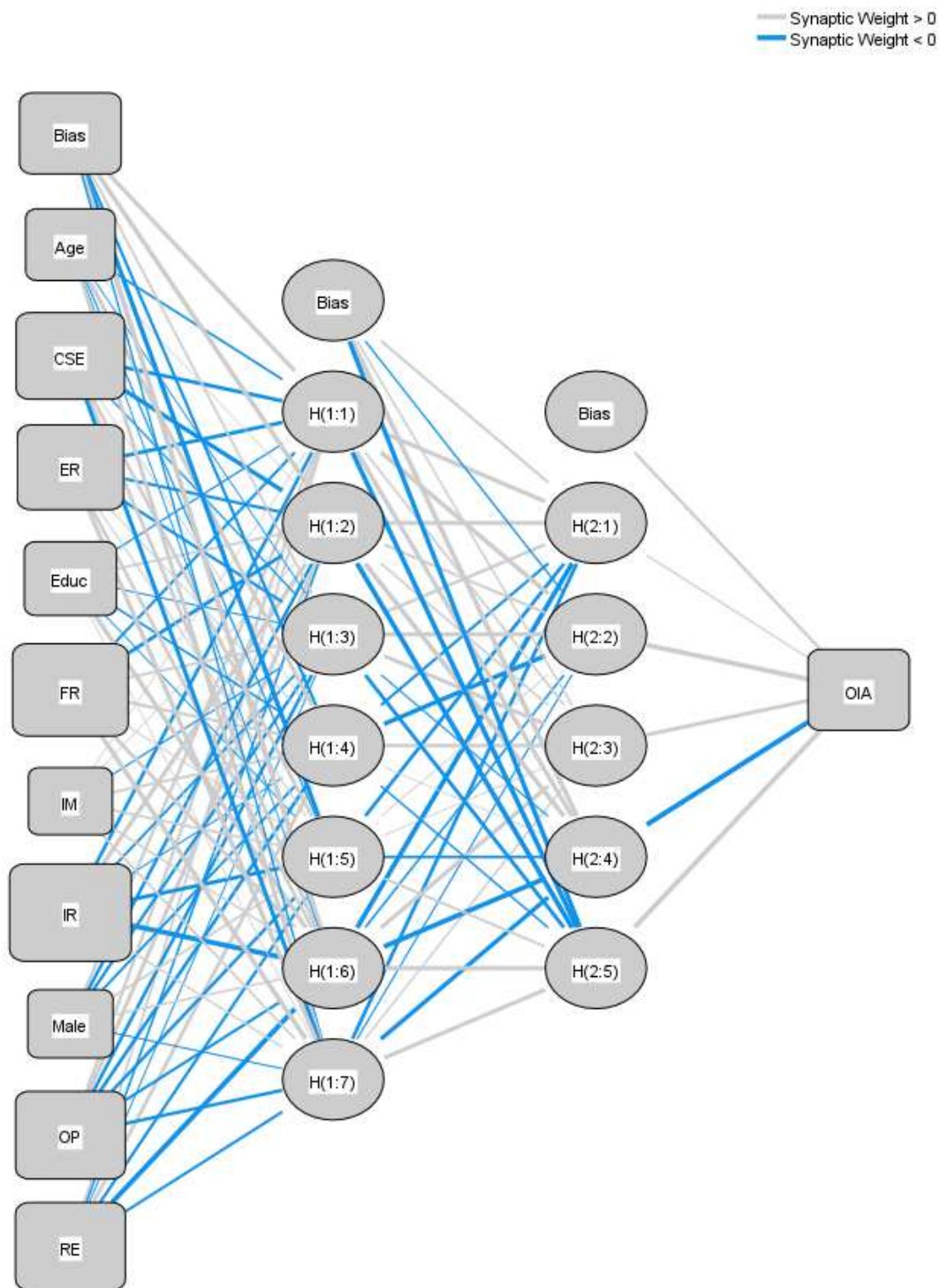
### Model 3: 1 Hidden Layer with Sigmoid Function



Hidden layer activation function: Sigmoid

Output layer activation function: Identity

#### ***Model 4: 1 Hidden Layer with Hyperbolic Tangent Activation Function***



Hidden layer activation function: Sigmoid

Output layer activation function: Identity

# APPENDIX E: SURVEY INSTRUMENT FOR HUMANITARIAN CRISIS MODEL

Constructs		Changed Items
<b>During a crisis such as the Ukrainian war you receive lots of information from online sources. In many cases those information does not match with your expectation. Answer the following questions considering this violation of expectation from online sources:</b>		
<b>Expectedness</b>	<b>EXP1</b>	This violation is completely expected (R)
	<b>EXP2</b>	This violation is not at all expected
	<b>EXP3</b>	This violation surprised me a great deal
<b>Importance</b>	<b>IMP1</b>	This violation is very important for me to decide about the usefulness of online sources
	<b>IMP2</b>	This violation is very unimportant for me to decide about the usefulness of online sources. (R)
	<b>IMP3</b>	This violation is major for me to decide about the usefulness of online sources
	<b>IMP4</b>	This violation is minor for me to decide about the usefulness of online sources.
<b>Valence</b>	<b>VLC1</b>	The violation was very positive
	<b>VLC2</b>	The violation was a behavior I liked a lot
	<b>VLC3</b>	The violation was a behavior that I did not like at all (R)
	<b>VLC4</b>	I'd like to see much more of such violation
<b>Perceived Objectivity</b>	<b>OBJ1</b>	Online information is objective
	<b>OBJ3</b>	Online information is neutral
	<b>OBJ4</b>	Online information is unbiased
	<b>OBJ5</b>	Online information is separates facts and opinions
<b>Selectivity of Topics</b>	<b>SOT2</b>	The topic of war is assigned an adequate status.
	<b>SOT3</b>	The frequency with which war is covered is adequate.
	<b>SOT4</b>	The topic is covered on the necessary regular basis.
<b>Selectivity of Facts</b>	<b>SOF1</b>	The essential points are included.
	<b>SOF2</b>	The focus is on important facts.
	<b>SOF3</b>	All important information regarding the topic of war is provided.
<b>Accuracy of Depictions</b>	<b>AOD2</b>	The reported information is true.
	<b>AOD3</b>	The reports recount the facts truthfully.
	<b>AOD4</b>	The facts that I receive regarding war are correct.
<b>Journalistic Assessment</b>	<b>JAS2</b>	The journalists' opinions are well-founded.
	<b>JAS3</b>	The commentary regarding war consists of well-reflected conclusions.

During a crisis such as the Ukrainian war, you receive lots of information from online sources. This information is provided to you so that you can keep yourself, your family, and your community safe. While answering the below questions consider the Ukrainian war situation and the information you receive.		
<b>Online Information Avoidance</b>	<b>OIA1</b>	I would rather not know about war related information during a crisis
	<b>OIA2</b>	I would avoid learning about the war related information during a crisis
	<b>OIA3</b>	Even if it will upset me, I want to know about the war related information during a crisis. (R)
	<b>OIA5</b>	I want to know the information recommendations during a war crisis. (R)
	<b>OIA7</b>	information during war crisis is important to know. (R)
	<b>OIA8</b>	I want to know the information recommendations immediately during war crisis. (R)

## APPENDIX F: DESCRIPTIVE STATISTICS OF HUMANITARIAN CRISIS MODEL

### *Survey Respondents of Poland (N=310)*

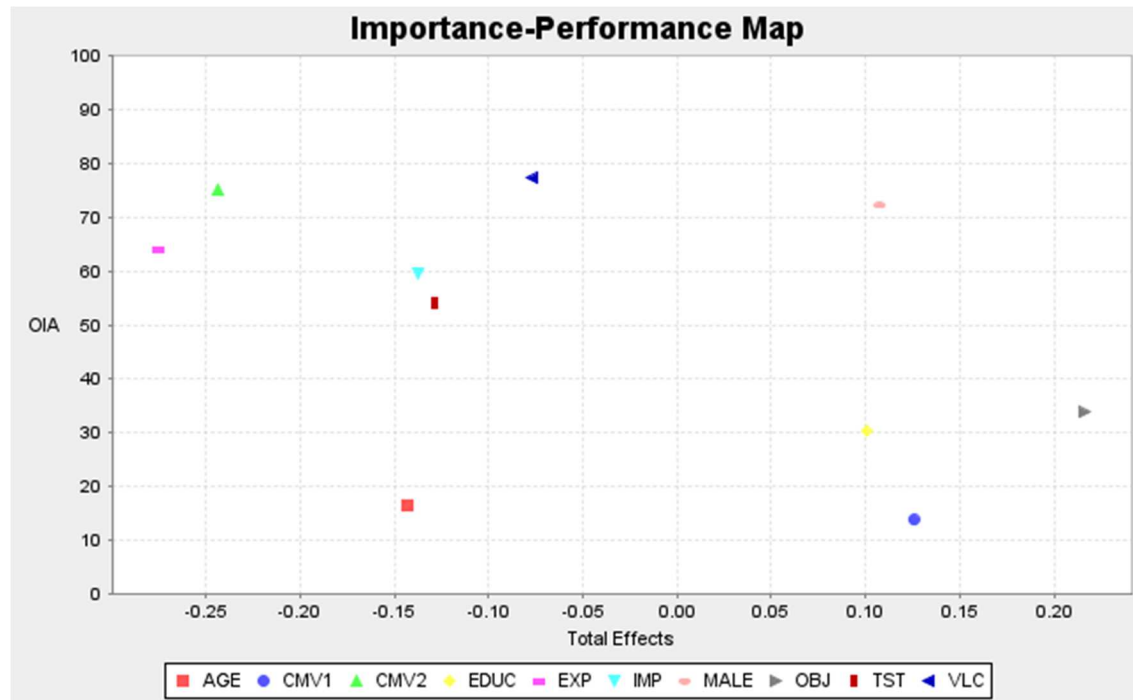
Characteristic	Number of Respondents	% of Total
<b>Gender</b>		
Female	85	27.42%
Male	224	72.26%
Others	1	0.32%
<b>Age Group</b>		
18 to 35 years	283	91.29%
Over 35 to 50 years	24	7.74%
Over 50 years	3	0.97%
<b>Educational Qualification</b>		
Less than an Associate degree	112	36.13%
Associate degree	56	18.06%
Bachelor's degree	83	26.77%
Master's degree	56	18.06%
Doctorate degree and beyond	3	0.97%

***Survey Respondents of USA (N=286)***

Characteristic	Number of Respondents	% of Total
<b>Gender</b>		
Female	140	48.95%
Male	141	49.30%
Others	4	1.75%
<b>Age Group</b>		
18 to 35 years	106	37.06%
Over 35 to 50 years	95	33.22%
Over 50 years	84	29.72%
<b>Educational Qualification</b>		
Less than an Associate degree	89	31.23%
Associate degree	37	12.98%
Bachelor's degree	106	37.19%
Master's degree	41	14.39%
Doctorate degree and beyond	12	4.21%

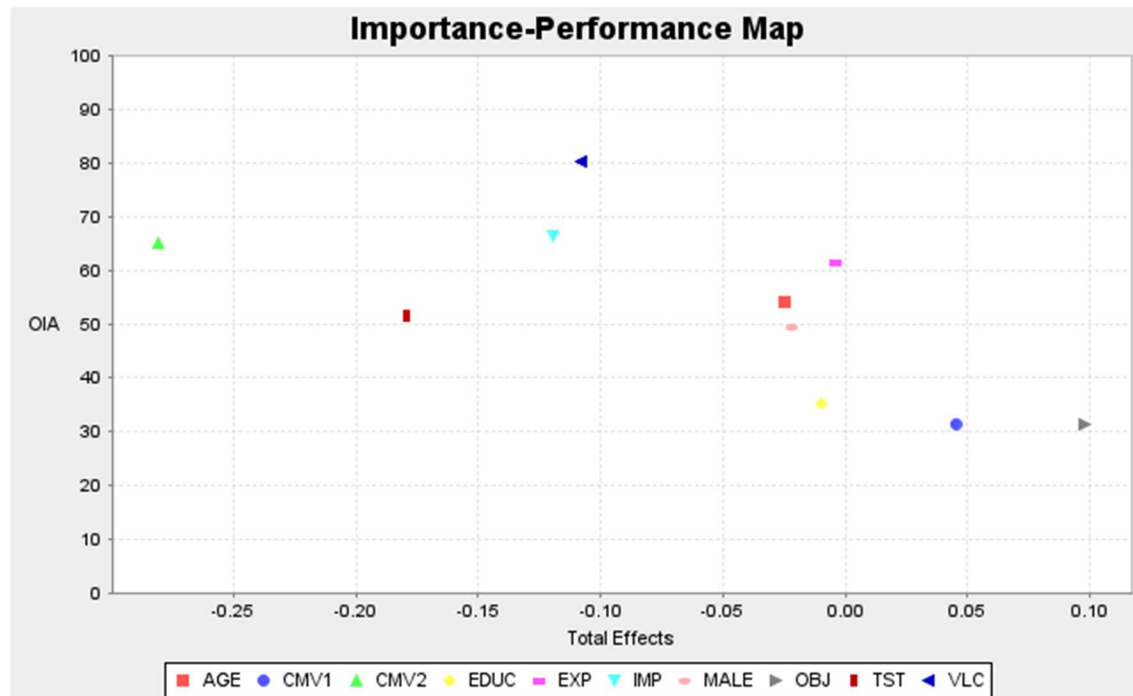
## APPENDIX G: IMPORTANT PERFORMANCE MAP ANALYSIS (STUDY 2)

### *Standardized IPMA of Poland*





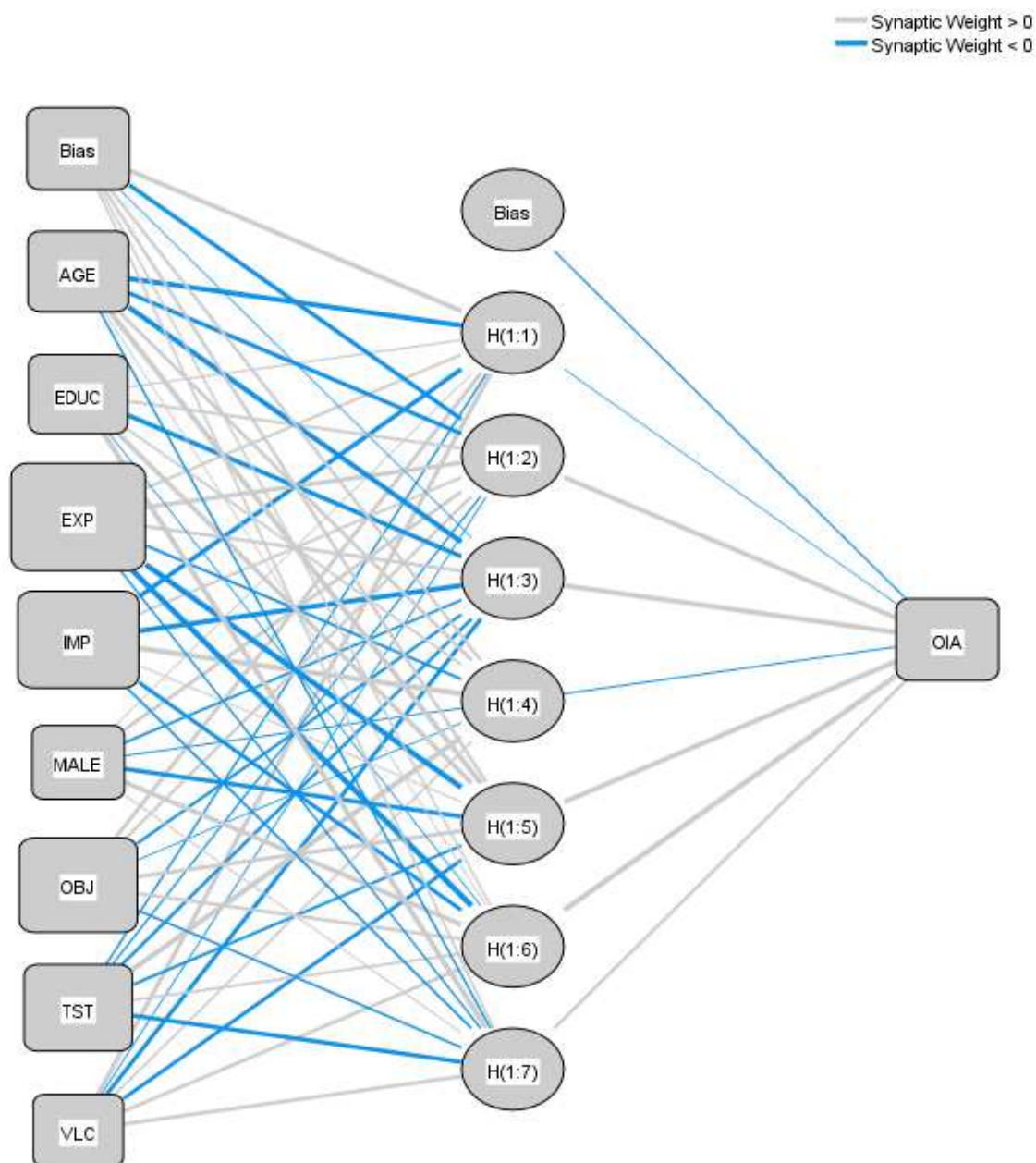
### *Standardized IPMA of USA*



## APPENDIX H: ARTIFICIAL NEURAL NETWORK (ANN) ANALYSIS (STUDY 2)

### Poland

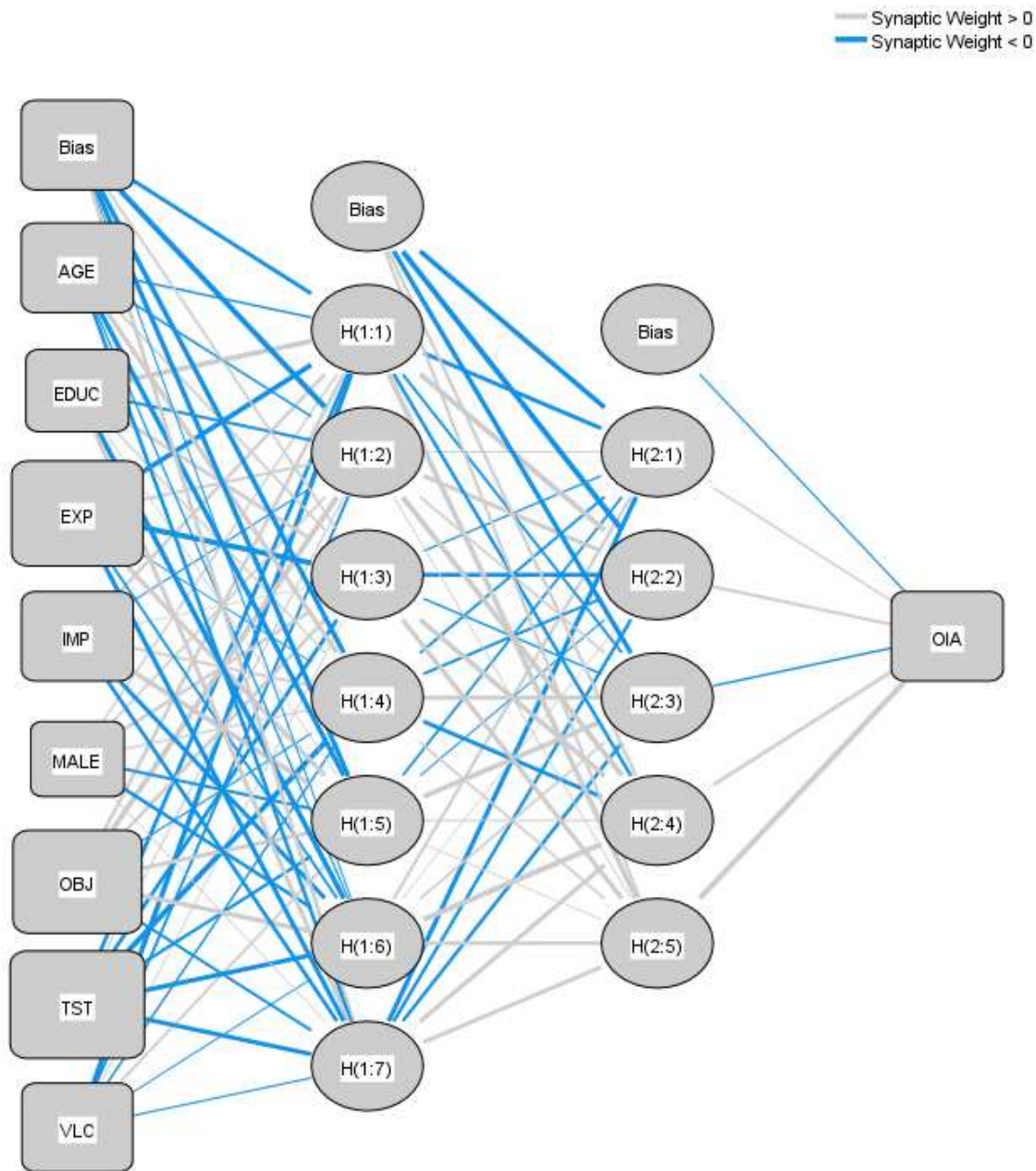
#### *Model 1: 1 Hidden Layer with Hyperbolic Tangent Activation Function*



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

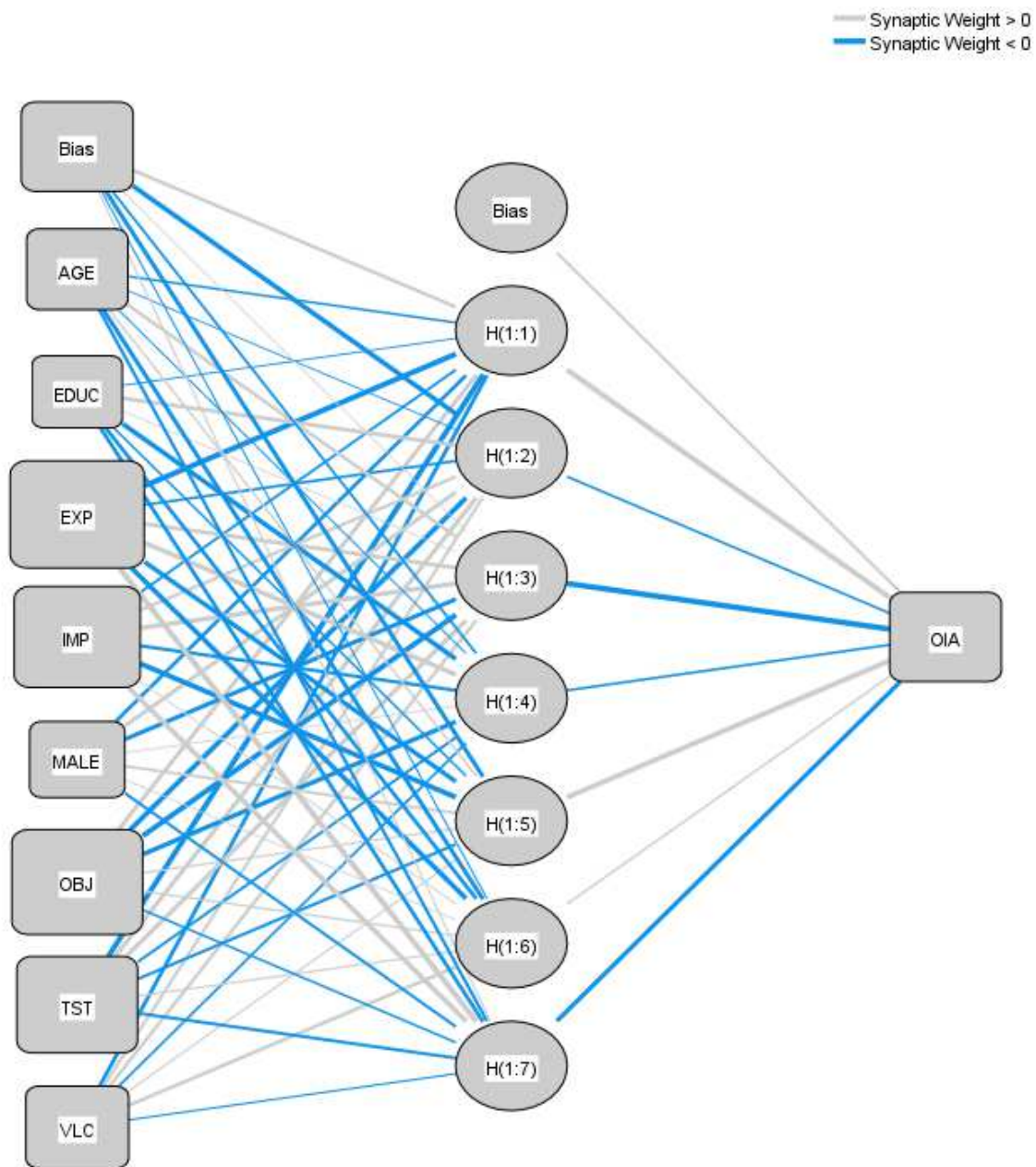
### ***Model 2: 2 Hidden Layers with Hyperbolic Tangent Activation Function***



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

### *Model 3: 1 Hidden Layer with Sigmoid Function*

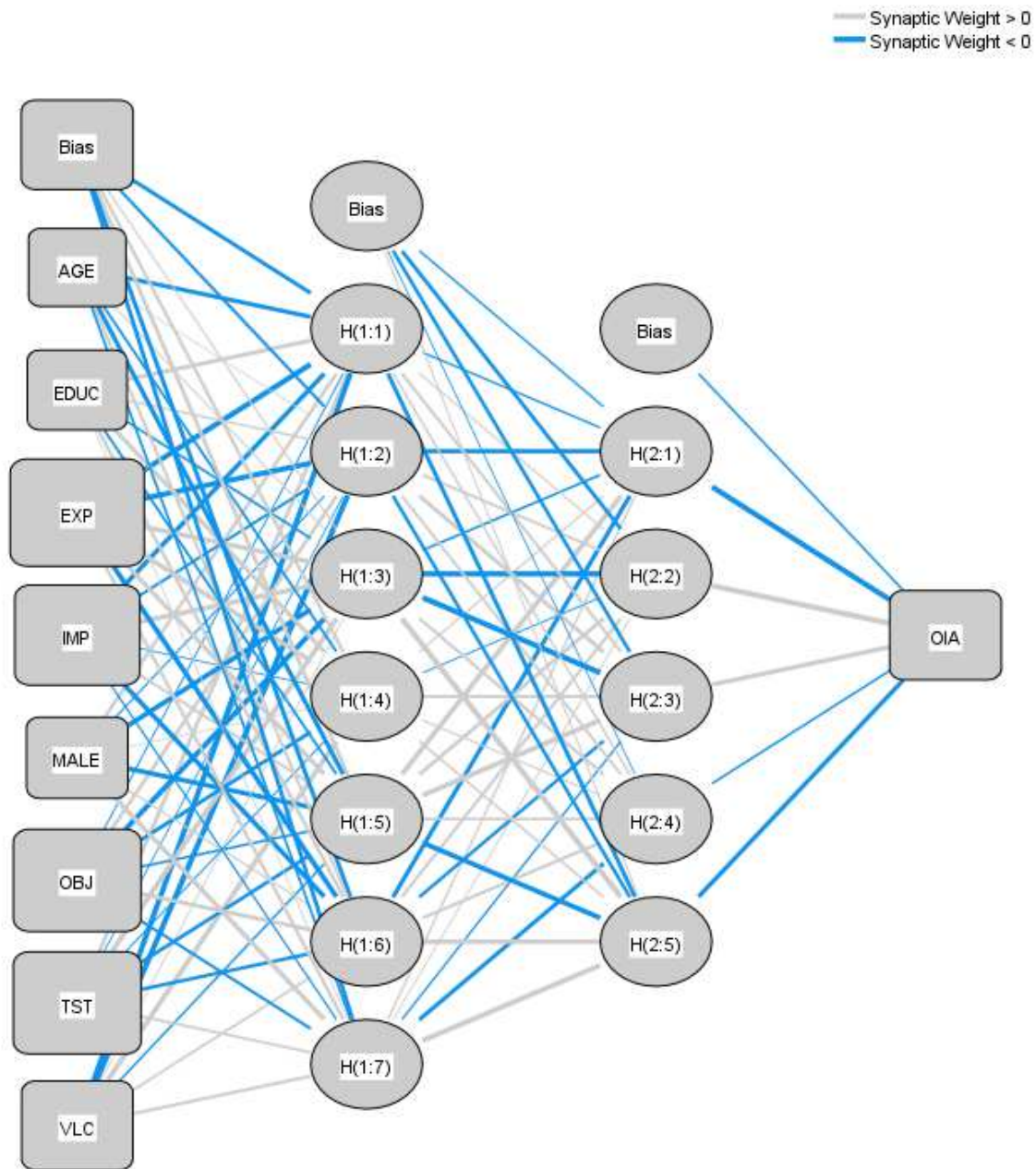


Hidden layer activation function: Sigmoid

Output layer activation function: Identity



#### ***Model 4: 1 Hidden Layer with Hyperbolic Tangent Activation Function***

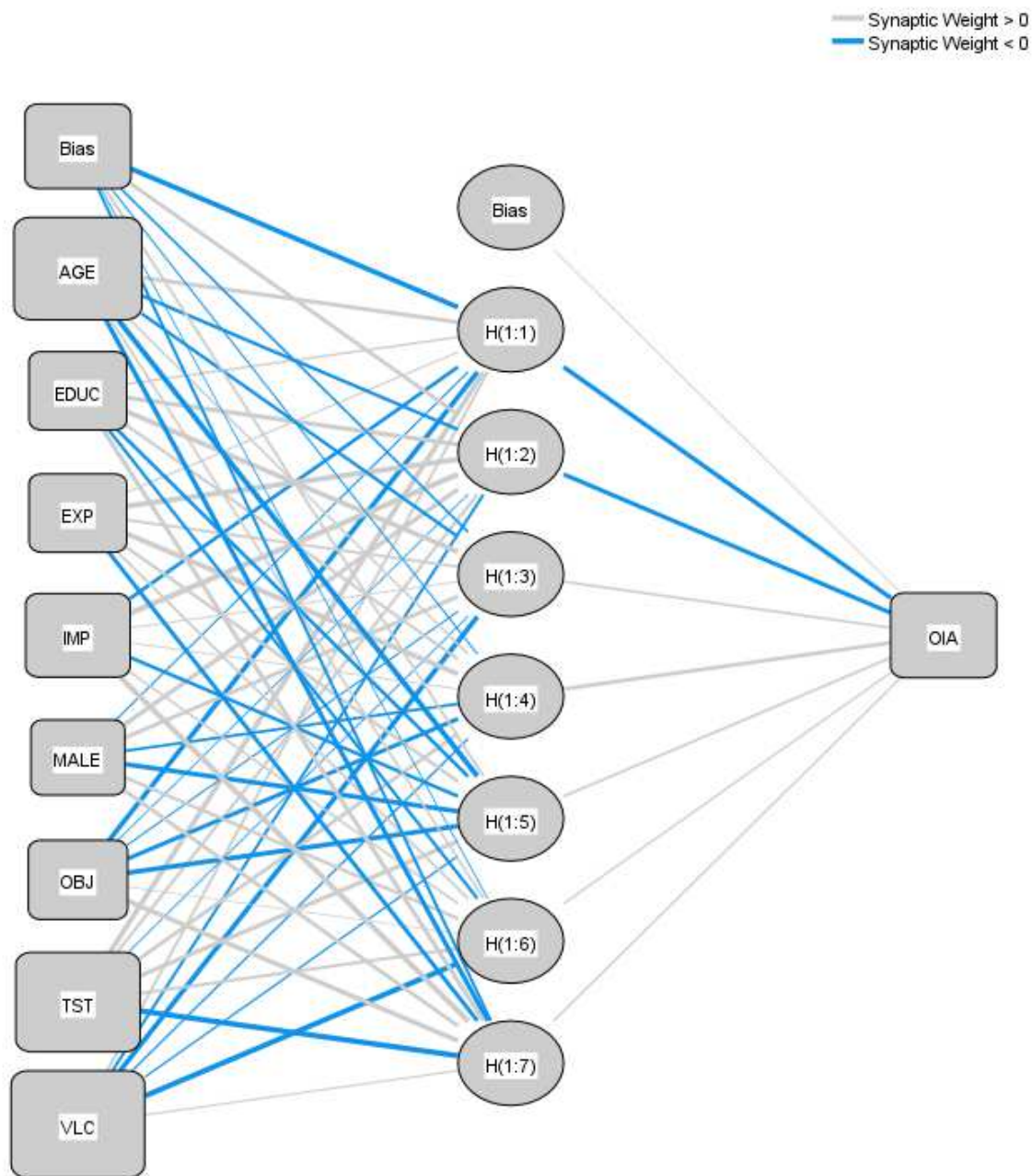


Hidden layer activation function: Sigmoid

Output layer activation function: Identity

## USA

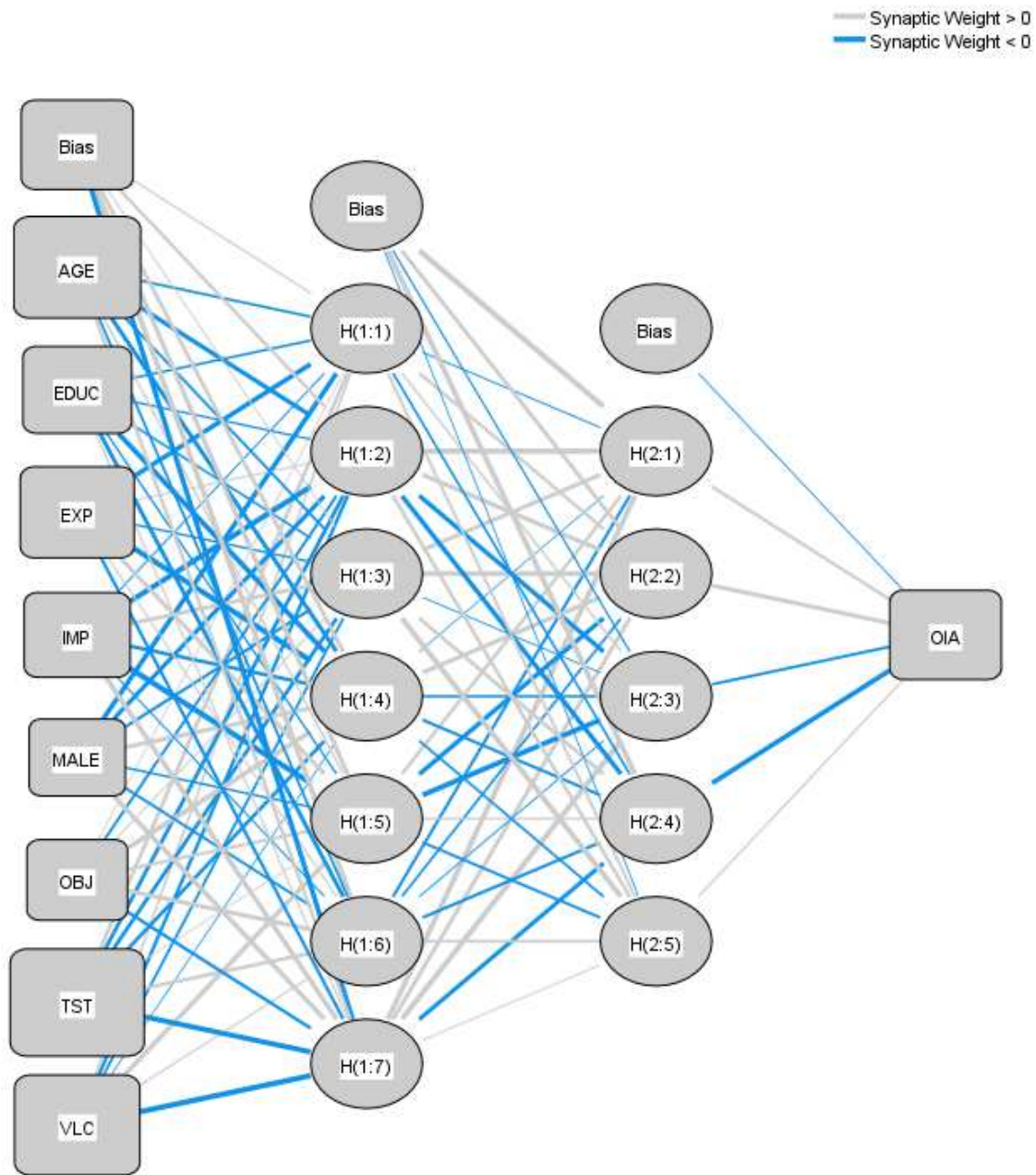
### *Model 1: 1 Hidden Layer with Hyperbolic Tangent Activation Function*



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity

### ***Model 2: 2 Hidden Layers with Hyperbolic Tangent Activation Function***

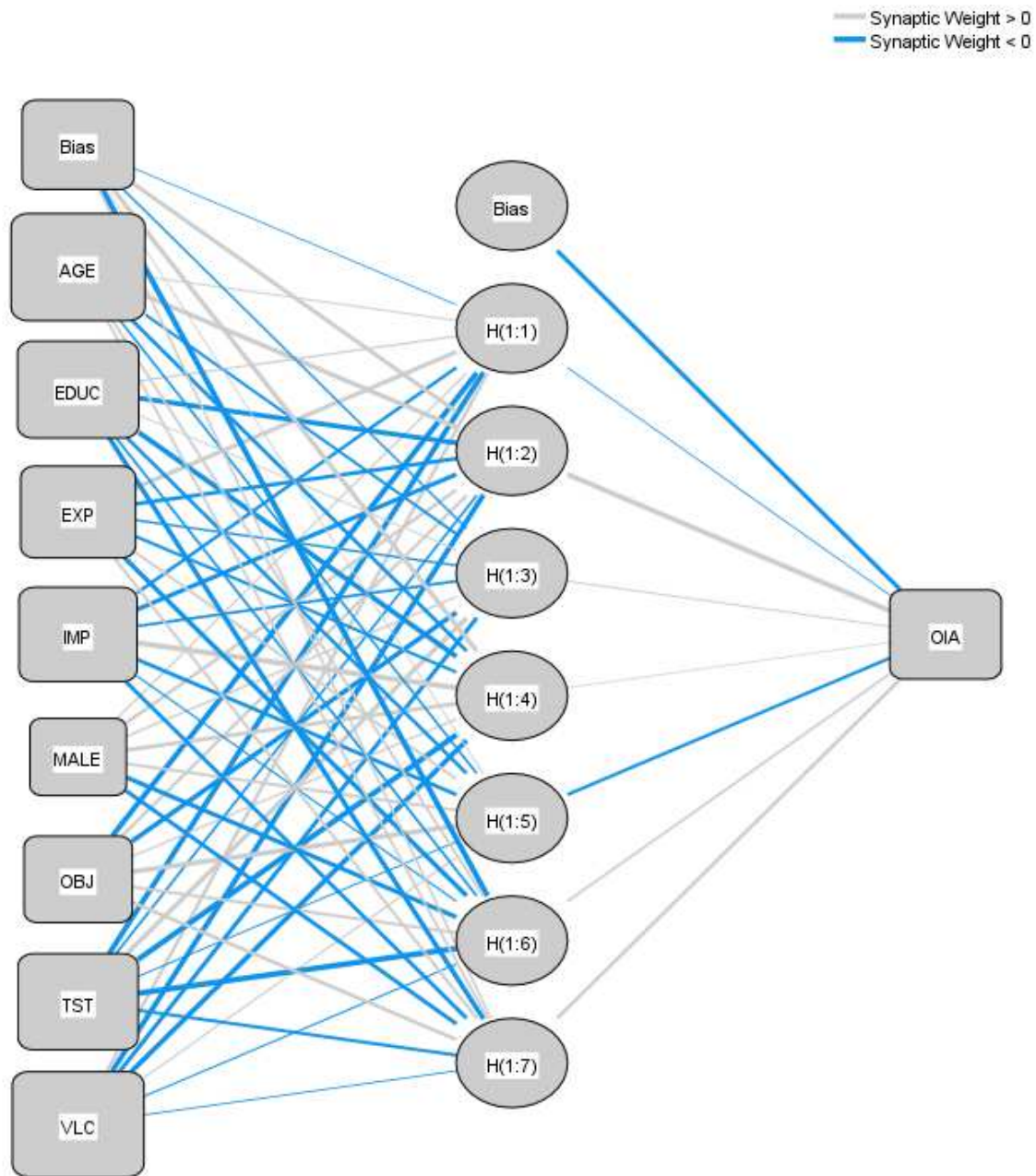


Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Identity



### *Model 3: 1 Hidden Layer with Sigmoid Function*



Hidden layer activation function: Sigmoid

Output layer activation function: Identity



#### ***Model 4: 1 Hidden Layer with Hyperbolic Tangent Activation Function***

