

Agoraphobia Information and Explanation

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## **Causes of Agoraphobia**

There is no single cause of agoraphobia. Rather, there are many contributing factors that increase the risk of developing it.

### **Personality Trait Correlations**

Trait correlations are risk factors that are associated with the development or severity of a disease. In this section, I'm referring to traits of the personality. This doesn't mean the risk factors are the patient's fault, or that they are a personal flaw. All they are is a predisposition towards traits that are associated with agoraphobia.

Distorted interoception is an overestimated awareness of bodily and psychological reactions. What this means is that awareness and fear of internal factors occurs regardless of actual sensations or emotions (Breuninger, Sláma, Krämer, Schmitz, & Tuschen-Caffier, 2017). This awareness can lead to catastrophic thoughts and assumptions that the sensations are dangerous because they are unidentifiable and seemingly overwhelming. Fear of the distorted feelings is developed, and with it, an avoidance of places that trigger them is developed as well.

Body vigilance and anxiety sensitivity are traits closely related to distorted interoception. Body vigilance is specifically overawareness of bodily sensations, like the beating of your heart or the pace of your breathing. (Breuninger et al., 2017). This can contribute to agoraphobic panic attacks because the more attention you pay to the sensation you are afraid of, the more anxiety about it grows and the more conscious we are of every irregularity. A non-agoraphobic example of body vigilance would be how you may suddenly have to breathe manually once I mention it.

Anxiety sensitivity is the catastrophizing of ambiguous cues and physical symptoms. The distorted interoception mentioned above can contribute to this because it amplifies the sensations

that anxiety sensitivity is interpreting as dangerous. High levels of this are predictive of panic attacks, anxious apprehension, and the development of panic disorder with agoraphobia (Hamm et al., 2016).

However, the strongest predictor of active and passive avoidance behavior was the perceived probability of panicking in a given situation. This is important to agoraphobia because until now, we were talking about the fear aspect of the disorder, not the avoidance. Avoidance behaviors are why people with this disease often have issues leaving the home or going into feared situations. Knowing that perceived probability predicts avoidance gives us insight that probability estimates need to be worked on in treatment.

### **Behavioral Mechanisms**

Behavioral mechanisms are what they say they are. They are actions, or behaviors, contributing to the formation and maintenance of agoraphobia.

Avoidance is one of the, if not the, most important behavioral mechanism in agoraphobia. Avoidance perpetuates fear by preventing extinction learning, one of the principle mechanisms in exposure therapy. If you feel less anxious every time you avoid one of your feared situations, then avoidance gets reinforced and the situation becomes more daunting the next time you face it because you know you have the option of not facing it. This is problematic because it limits your world to just the 'safe' areas. For example, if you have a fear of large crowds, you no longer feel able to go to the grocery store on a weekend, or go to events. In other words, it impairs functioning, one of the diagnostic criteria in the DSM-5. (APA, 2013).

In the Threat-Imminence Model, behavioral responses are organized according to how close or immediate the threat is. This can be applied to agoraphobic behaviors as well.

The first stage of this model is Pre-Encounter Defense. This is when you are in a context where threat (like the loss of control in panic attacks) has been experienced before. This is characterized by preemptive behaviors like hypervigilance and safety behaviors. Passive avoidance occurs before this step by not going into any potentially threatening areas in the first place (Hamm et al., 2016).

The second stage is Post-Encounter Defense, where threat (such as increased heart rate or racing thoughts) has been detected. Selective attention is paid to what is going wrong (the threat) and the defensive response begins. This can entail freezing or building feelings of anxiety. This response is also known as anxious apprehension, which is related to general distress, anxiety, and depressive mood (Hamm et al., 2016). Anxious apprehension amplifies risk assessment, changing the perceived probability of panicking and therefore increasing avoidance.

Circa Strike Defense, the last stage in the Threat-Imminence Model, is active defensive behavior. This mainly appears as panic attacks and active avoidance in agoraphobic patients (Hamm et al., 2016). Panic attacks in themselves are generally the threat as well as the response. They occur when an acute threat is present, which is often, cyclically, the symptoms of the panic attack. They also facilitate the strengthening of anxious apprehension due to anticipation or fear of another panic attack, making passive avoidance more likely next time.

### **Genetic Risk Factors and Biology**

Agoraphobia has a heritability estimated at 61% (APA, 2013), which means that genetics are a significant portion of agoraphobia's cause. While we have not identified all the genes that contribute to the development of the disorder, we have identified ones that show promise and are strongly associated with agoraphobia and agoraphobic traits.

One of those genes is a polymorphism of the promoter region of the gene encoding monoamine oxidase A (also known as MAOA). Monoamine oxidase is an enzyme that metabolizes ‘excess’ serotonin and norepinephrine, two neurotransmitters. The risk allele for this gene is a long-allele variant of the gene MAOA-uVNTR, which has been associated with a higher risk of panic disorder in females, and was associated in laboratory tests to be strongly associated with panic attacks – 33 out of 34 people who experienced a panic attack in laboratory conditions has the long-allele variant (Hamm et al., 2016). Essentially, the body is ‘cleaning up’ and metabolizing serotonin (a regulating and calming neurotransmitter) differently with this variation, likely contributing to panic attacks by removing too much.

Another genetic risk factor is the G-allele in the transcriptional control region of HTR1A, which affects serotonin reception. The G-allele increases the expression of this gene, reducing the transmission of serotonin. People with the GG-genome were observed to have significantly increased active avoidance/escape behavior compared to those who had CC-genomes. Those with GC-genomes fell in between. The more G variants also correlated with shorter self-imposed exposure periods, which may affect treatment in the future (Hamm et al., 2016).

The two genetic variants and associated behaviors we just talked about strongly imply that the serotonergic system is involved in Circa Strike Defense, and specifically with panic attacks and avoidance behaviors (Hamm et al., 2016).

The last genetic risk factor to be addressed is a risk-allele of the corticotropin-releasing hormone (CRH), which isn’t involved in panic response, but is involved in manipulating general distress and anxious apprehension. The risk allele is significantly associated with increased defensive reactivity and sustained anxiety, not in-the-moment fear. (Hamm et al., 2016)

This implies that the hypothalamic-pituitary-adrenal (HPA) axis is involved with anxious apprehension because CRH is part of the HPA axis's cascade that results in the production and release of cortisol, the stress hormone.

### **Childhood Risk Factors**

Childhood separation anxiety disorder has been longitudinally associated with the development of agoraphobia (Battaglia et al., 2017). In those whose separation anxiety symptoms were classified as high-increasing, agoraphobic symptoms took their place in later years. Also, mothers who reported high levels of panic/agoraphobic symptoms were more likely to have a child with separation anxiety.

Agoraphobia is also associated with negative events in childhood or other stressful events, as well as family climates with an emphasis on reduced warmth and overprotection (APA, 2013).

## **Treatment Recommendations**

### **Psychological Therapy**

The basis of most empirically-supported psychological treatments for agoraphobia is exposure therapy. The variation is how the exposure is packaged and practiced. Exposure therapy is so central to treatment because it extinguishes the fear response through practice and behavioral reconditioning. This reduces the already present phobic associations and replaces them with neutral or positive associations through repetition. In addition, it disproves lowball probability estimates of aversive outcomes, improving confidence.

**Cognitive behavioral therapy (CBT).** CBT for agoraphobia is exposure with cognitive restructuring and challenging of harmful beliefs/notions. This is based on the notion that panic disorders are maintained by catastrophic beliefs about anxiety and overblown fear of bodily sensations (Hoffart, Hedley, Svanøe, & Sexton, 2016).

**Guided mastery therapy (GMT).** GMT focuses on strengthening self-efficacy, or the belief in your ability to handle situations. This usually entails exposure with emphasis on reducing in-situation avoidance (Hoffart et al., 2016).

**Very-long-term outcomes.** In an 18-year-long study examining outcome differences between CBT and GMT therapies, both therapies had a positive long-term outcome with no statistical differences between the two emerging at the final assessment. More than half of the patients studied (56.5%) no longer had a diagnosis of panic disorder and/or agoraphobia diagnosis at follow up (Hoffart et al., 2016). This is especially important to note because the DSM-5 lists the complete remission rates of untreated individuals at only 10% (APA, 2013). However, it is also important to note that many of the patients were using medications as well, so the results can not be seen as solely attributable to the therapeutic interventions.

**Virtual reality exposure therapy (VRET).** VRET is exposure therapy performed in virtual reality instead of in-vivo. In a study comparing VRET to CBT (both groups were also on antidepressants), both were statistically effective as compared to a medication-only group. People in the VRET group also had lower self-perceived anxiety levels in the two lab exposure task compared to the CBT group. An important element to maintaining the efficacy of exposure therapy in a virtual reality setting is the ‘sensation of presence,’ or the immersion in the virtual

environment (Peñate Castro, Roca Sánchez, Pitti González, Bethencourt, de la Fuente Portero, & Marco, 2014).

**Ways to improve results and adherence.** One of the biggest obstacles to successful exposure therapy is patient dropout. Patients with persistent agoraphobia tend to have high dropout rates, be reluctant to new exposure, and overuse diazepam (Peñate Castro et al., 2014). Patients may be jaded about trying something over again, or new patients may get overwhelmed by the confrontation of phobic situations needed for exposure therapy. In any case, it is a common problem that needs to be addressed. Without treatment, chances of remission will go back down to just 10% (APA, 2013).

Virtual reality exposure therapy is one way to combat low adherence rates. VRET seems new and different to the jaded long-term patients, and works as an intermediate step for those who would have dropped out of typical CBT exposure. In one study comparing dropout rates of CBT, VRET, and medication-only groups, VRET had by far the lowest percentage of patient dropout. VRET was over 10 percentage points below the meds-only group and 30 percentage points below the CBT group (Peñate Castro et al., 2014).

Therapist accompaniment and guidance in the exposure situations improves response and adherence in those with a strong behavioral tendency towards passive or active avoidance. If a strong tendency is not present, then accompaniment is not necessary, and the same outcome can be reached by planning exercises ahead with the therapist (Hamm et al., 2016).

Taking treatment preferences into account when determining a course of action can also improve retention of patients. Client adherence decreases when choice of treatment is not respected (Perreault et al., 2014).



**Selective Serotonin Reuptake Inhibitors (SSRIs).** When treatment outcomes were compared between SSRI-only, CBT-only, and CBT+SSRI treatment groups, the SSRI-only treatment was the least effective. However, the CBT+SSRI group showed the most positive outcomes, suggesting that SSRIs may be useful in combination with other treatments - just not very good by themselves (Apeldoorn, Stant, Hout, Mersch, & Boer, 2013).

**Cost-effectiveness.** In the same study, SSRIs were the most expensive single element in treatment. CBT was the least expensive and second best outcome treatment, only falling behind CBT+SSRI treatment. What this means is that while CBT alone is the best ‘bang for your buck,’ if financial situations allow it, CBT+SSRI is slightly more effective (Apeldoorn et al., 2013).

### **Prognosis and Quality of Life**

#### **Agoraphobia Through the Lifespan**

Incidence rates peak in late adolescence and early adulthood, and in 2/3 of cases onset is before 35 years. However, there is a second high-incidence risk phase after 40 years (APA, 2013). Early onset is associated with more intractable, or difficult to resolve, symptomology. This makes early treatment important (Cornacchio, Chou, Sacks, Pincus, & Comer, 2015). It is generally persistent and chronic, and unlikely to be resolved without treatment (APA, 2013). While the specific fears may change based on age, the presence of fears does not.

As severity increases, rate of remission decreases and rate of relapse and chronicity increase.

#### **Disability and Impairment**

Agoraphobic situations always provoke fear or anxiety and lead to clinically significant distress or impairment. Over 1/3 of people with agoraphobia are completely homebound and reliant on others for anything outside the home (APA, 2013).

### **Comorbid Conditions**

Multiple psychological disorders have higher incidence rates in those with agoraphobia. The most notable and frequently mentioned of those is panic disorder. While these disorders very commonly occur together, epidemiological evidence suggests that they can both exist entirely independent of each other, and neither precedes the other more often (Hamm et al., 2016)

Other disorders that commonly co-occur with agoraphobia are major depressive disorder, persistent depressive disorder, other anxiety disorders, and substance use disorders (APA, 2013). Substance use disorders may occur out of attempts to self-medicate (Palardy, El-Baalbaki, Fredette, Rizkallah, & Guay, 2018).

### **Costs Associated**

Agoraphobia is associated with substantial costs, with the top three contributors being the costs of interventions, costs of lost productivity, and medication costs (Apeldoorn et al., 2013).

### **Social Support**

Social support and symptom severity can be cyclical: each are causal and prognostic. The disorder's negative impact on interpersonal relationships may affect the quality and level of support received from their social network, which in turn may affect the symptomology due to a lack of connections and assistance. The current studies on this subject are correlational, so it is impossible to say which is the root cause.

Social support is the process through which help is given and exchanged with others to achieve goals. There are multiple subtypes of social support: perceived social support and received social support are both measures of the quality of the support. Social networks are a more quantifiable subtype, but have less associative value with symptomology. Perceived social support refers to the person's perception that their relationships will provide resources like emotional support and information. Received social support refers to supportive behaviors that one does to help another face stressful life events. In addition, social support can be positive – productive and helpful – or negative – destructive and unhelpful (Palardy et al., 2018)

Negative social support is associated with more severe symptoms, and positive social support is associated with improvements in symptoms. Further, results from studies of panic disorder with agoraphobia indicated a negative association between perceived social support and symptom severity (Palardy et al., 2018). So, as the patients perceived higher levels of social support, their symptom severity decreased. Quality of social support as observed by researchers in marital partners negatively predicted panic disorder with agoraphobia severity as well. Unfortunately, results are not completely cohesive at this point, and more research is necessary to confirm the presence of these associations (Palardy et al., 2018).

### **Family Experience**

The reliance of individuals with agoraphobia on support networks such as family can increase stress and foster negative emotions, regardless of whether they are expressed. Therefore, it is important that family needs be taken into account and negative experiences and feelings need to be mitigated wherever possible.

One often well-meaning mistake of family members is overaccommodation. This actually decreases the quality of social support by perpetuating habits and reducing exposure to feared stimuli. Helping your loved one avoid anxiety-provoking places can increase their overall anxiety because it is negatively reinforcing avoidant behavior by removing stressors before exposure can take place. It reduces their anxiety in the short-term, but increases it in the long term.

Something that is helpful to many families with an agoraphobic member is foundational psychoeducation. This can foster greater understanding and support while reducing frustration. Inclusion in the patient's therapy process, if appropriate, can also help loved ones learn how to deal with symptoms and how hard to push towards exposure.

Personalized therapy may also help individual family members work through their own emotions and reactions in a private space.

### **Review of Popular Publications**

The popular literature that I found can be divided into 3 categories: excellent, okay, and deeply flawed.

Mayo Clinic's article on agoraphobia falls into the 'excellent' category. It had no myths or incorrect information that I could find, and frankly did a better job than the academic articles at being easily understood. All pertinent information was included. Another aspect they did well was explaining and including details about what the course of action should be.

The 'okay' category includes two articles. The Wikipedia article's content was surprisingly good, and I appreciated the informational tone, as opposed to the other articles which were reader focused. However, I can't put this article into the 'excellent' category for two

reasons. The first is the issue of authorship. On Wikipedia, you can edit a page without any credentials or education, which reduces reliability. Second are the edits themselves. I cannot recommend an article that varies unpredictably.

The other 'okay' article was from Medical News Today. It wasn't as well organized or thorough as the Mayo Clinic article, but it was generally adequate. One thing that was not ideal was their 1-sentence discussion about family, in which they only talk about not pushing the person with agoraphobia too far. It would have been more accurate and useful if they had added another sentence explaining the dangers of overaccommodation as well.

The last article, from WebMD, is deeply flawed. What it does well is the use of more relatable, simplistic wording. However, in many cases that was a double-edged sword because they oversimplified to the point of losing the original meaning. There was also a lack of important details, such as the efficacy of treatments they recommended. The most important flaw they had was when they were blatantly wrong. For example, in the symptoms section, they listed the criteria for a panic attack, not agoraphobia.

If a family was looking for information on their own, they would have a mixed bag of information. If they found the first three articles, they would have most of the information they need. However, I was surprised at the lack of emphasis on exposure therapy in all the articles. If they found the last article, it would be confusing and not helpful.

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