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## What is Red Face?

From childhood, Russell experienced intense social anxiety to the point that, on more than one occasion, he discontinued certain extracurricular activities and socially normal gatherings to avoid it. *Red Face* is a narrative of his struggles with this social anxiety, the accompanying idiopathic craniofacial erythema (uncontrollable blushing), and the many successful and unsuccessful coping mechanisms he has attempted over the years.

Russell first began to experience social anxiety around puberty at age 12 or 13, most noticeably when he was at school. Describing himself as a reserved child, he found being surrounded by so many other people overwhelming. As a teenager he began skipping school, unbeknownst to his parents, as his anxiety became more and more unbearable. He experienced performance anxiety around his competitive swimming, which, as a result, he ended up quitting, and around piano lessons due to his authoritarian-style teacher.

Later, stages of his anxiety became more identifiable and increasingly more socially disruptive. He would notice that his anxiety would often begin days before an anticipated interaction or event. Then, he would experience the acute anxiety of the event and finally, would experience the "comedown dysphoria." The after or comedown phase also included dissatisfaction with the interaction and severe self-criticism. He would obsessively analyze what he said and how others perceived his performance.

By college, this crippling social anxiety led him into a deep depression accompanied by self-harming behaviors, suicidal thoughts, and substance abuse. He turned to alcohol for relief at this juncture, sometimes consuming an entire bottle of wine to make it through a lecture at school. When suicidal thoughts began to take hold a friend encouraged him to seek help. His general practitioner suggested the use of an antidepressant to help him through the rest of his time at the university. He did see measurable relief from the medication, but he found it came with many frustrating episodes of dissociation, so he did not consider it as a long-term solution, weaning off after a reasonably short time. This left him back where he started, and he continued to search for more coping mechanisms on his own.

At his first job, he continued to experience the overwhelming anxiety of social situations. He noticed that when he slept less, he was less able to focus on his anxiety and it brought some relief. As this was an unsustainable solution, he quickly discontinued this practice and looked for

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solutions in herbal remedies, none of which he found effective. This was when he turned to exercise for help.

He began the routine of long runs each day and found it tremendously helpful in releasing nervous energy and lessening the symptoms of the anxiety on a noticeable level. But even with incorporating regular exercise into his life there were still situations that would evoke strong anxieties. During this time, beta blockers were suggested as a possible alleviation aid and they did prove to provide significant relief for him. However, he found himself feeling emotionally dependent on them and decided that they, also, were not the end all treatment method he wanted to rely on, which led to using only rarely.

Russell says he never considered therapy as a treatment method, but now wishes he had understood this was an option at a younger age. Russel notes that acceptance commitment therapy stands out to him because of how effective acceptance has been in helping his mental health thus far.

Part of the healing journey for Russell has been to reframe these challenges and find the blessings within them. Over time, he has begun to see anxiety in a different light and even appreciate it, as it guided him towards his very fulfilling career choice. Being married and having kids has also improved his anxiety because it has given him something else to focus on.

Today, Russell has found that writing his book and being on various media outlets has been a form of exposure therapy that has brought him additional relief. Talking openly about his struggles has allowed him to stop worrying about having to keep it a secret. While he encourages those experiencing similar struggles to seek and consider many forms of help, he does stress that there is no quick fix or easy cure. He is quick to remind that his journey was paved by trial and error with a mix of successes and failures.

# What is Idiopathic Craniofacial Erythema?

Idiopathic craniofacial erythema, uncontrollable blushing, is an involuntary response to anxiety, stress, or embarrassment. The most common symptoms include the face feeling hot and red or pink color to the cheeks (Kristan & Christer, 1991). The degree to which one is concerned about how they are regarded by others is positively correlated to how predisposed they are to blushing. Anxiety around interactions was one of the four main predictors of blushing propensity. Therefore, this condition is associated with social disorders and can have a significant negative

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impact on quality of life (Kristan & Christer, 2016). First attempts of treatment should be pharmacologic or psychological, including cognitive behavioral therapy (CBT). Cognitive therapy in group therapy has been shown effective for treating aspects of social anxiety with fear of blushing (Härtling et all., 2016). If those forms of treatment are ineffective surgical interventions, mainly sympathetic denervation is an option (Kristan & Christer, 2016). However, surgical interventions should be approached with high levels of caution.

## Literature Behind Russell's Coping Mechanisms

## Beta blockers and social anxiety:

He used <u>propranolol</u> in the book on an as needed basis and ended up having a compulsive relationship with them. There doesn't seem to be sufficient evidence for their use in social anxiety or anxiety disorders. The meta analysis below says their effect for anxiety is insufficient.

## Alcohol and social anxiety:

The DSM section below details this relationship. There is a significant amount of literature that shows how close the relationship is between substance abuse and social anxiety.

## Parenting and social anxiety:

The author talks about a shift to outward focus as a result of having children that significantly helped his anxiety. This is consistent with the thought that high self-consciousness and self-awareness is correlated with higher social anxiety symptoms.

## Neuroticism and Social Anxiety

Neuroticism, at its core, is a propensity to favor negative emotionality throughout the lifespan (McAdams et al., 2021). The display of negative emotions (fear, frustration, sadness, etc.) broadens as self-awareness and cognition develop. Neuroticism has been shown to be closely related to anxious mood and depression (Naragon-Gainey & Watson, 2011). In the same study, when social anxiety was analyzed in relation to neuroticism, there was not a unique link discovered between the traits, but the two variables were still determined to be related.

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A following study investigated the specific traits of neuroticism in comparison to social anxiety, determining that self-consciousness and vulnerability were the strongest predictors of interaction and evaluation anxiety, with self-consciousness being the strongest relationship of all the traits (Newby et al., 2017). This finding demonstrated the relationship between increased self-awareness and fear of interactions.

# Key Points in the DSM-5 Related to Russell's Story

The DSM-5 contains various points, referenced below, exemplified within Russell's personal experience. Social anxiety is classified by fear of scenarios where the person may be criticized by others. These scenarios were present in Russell's upbringing and he described a constant worrying of what others thought of him. The DSM also describes that anticipation of anxiety comes far in advance of social situations. There were several examples where Russell couldn't sleep or rest because of the anticipation of a social situation. A key characteristic of social anxiety is the disproportionate anxiety to risk ratio. Russell's anxiety was out of proportion with any risk the scenario presented.

"...fear or anxiety of social situations in which the individual may be scrutinized by others" (p. 230)

"...anticipatory anxiety may occur sometimes far in advance of upcoming situations" (p. 230).

"The fear or anxiety is judged to be out of proportion to the actual risk of being negatively evaluated or to the consequences of such negative evaluation" (p. 230).

"They may seek employment in jobs that do not require social contact" (p. 231).

#### Self- medication:

A key part of Russell's story involves self-medication, specifically alcohol. Russell described how alcohol allowed him to act comfortably, without the pressures of anxiety. He tells stories about finding the right level of intoxication before his college classes or before work so that no one would know he had been drinking, but he could still function at a normal level. He also employed this coping mechanism before meeting with his first girlfriend out of fear that she wouldn't like the sober version of himself.

"Self-medication with substances is common (e.g., drinking before going to a party)" (p. 231).

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"Men are more likely to fear dating..... and use alcohol and illicit drugs to relieve symptoms of the disorder" (p. 233).

## Blushing:

The DSM-5 notes that blushing is closely related to social anxiety, which is a key part of Russell's story.

"Blushing is a hallmark physical response of social anxiety disorder" (p. 231).

### Depression:

Russell experienced deep depression for many years while he battled the hardest seasons of his social anxiety. There was a clear decrease in quality of life, as noted by the DSM-5. His experience with depression and self- harming behaviors is detailed in the book. The onset of social anxiety preceded other mental health issues he faced later on.

"Social anxiety disorder is associated with.... decreased well-being, workplace productivity, socioeconomic status, and quality of life" (p. 233).

"Social anxiety disorder is often comorbid with other anxiety disorders, major depressive disorder, and substance use disorders, and the onset of social anxiety disorder generally precedes that of the other disorder" (p. 235).

## Reflections from the Episode

## Psychotherapy and social anxiety:

As mentioned in the episode, psychotherapy is a common tool used for social anxiety disorder. According to a systematic review of 101 trials, individual CBT has been shown to have greater effects on outcomes than placebos suggesting its effects are specific (Mayo-Wilson, et al., 2014).

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## CYP2D6 (P450) and social anxiety:

The CYP2D6 gene is a member of the cytochrome P450 enzyme superfamily (NIH, 2023). According to the NIH, as many as 25% commonly prescribed medications are metabolized by this protein. SSRIs are common inhibitors of CYP450 enzymes, which includes CYP2D6 (Thakur, 2007). Specifically, CYP2D6 is heavily inhibited by fluoxetine and paroxetine. Also paroxetine is broken down by 2D6, so if people have a poor metabolizer variant of 2D6 will break down the drug slower than an ultra rapid metabolizer variant (Marianne, 2008). This relationship has made genetic polymorphisms of CYP2D6 an important factor when considering individual differences in responses to antidepressants like fluoxetine and paroxetine (Kawanishi, et al., 2004). Understanding a patient's CYP2D6 through genetic testing can provide valuable insight to whether a medication will be safe and effective for them.

## Exercise and social anxiety:

It can be difficult for those with social anxiety disorder to seek treatment for various reasons. This emphasizes the importance of non-traditional treatments for those with social anxiety disorder. A randomized control trial comparing mindfulness based stress reduction (MBSR) and aerobic exercise for the treatment of social anxiety disorder found significant decreases in clinical symptoms within both groups (Jazari et al., 2012). However only a quarter demonstrated a clinically significant decrease in social anxiety symptoms when compared with a healthy control. The findings of this study show promising effects of non-traditional treatments including aerobic exercise for the treatment of social anxiety, but may need to be used in conjunction with traditional treatments for widespread clinically significant results to be found. It is also important to note the aerobic exercise regiment the participants completed was in a group setting so a form of exposure to social interactions was also present.

A comprehensive analysis of eight randomized controlled studies exploring all types of anxiety disorders and exercise revealed exercise as a consistently effective supplementary treatment (Jayakody et al., 2014). In particular, for social phobias, combining cognitive behavior therapy with exercise (such as a home-based walking regimen) proved more effective in alleviating depression, anxiety, and stress compared to a cognitive behavioral group that received an educational intervention. A suitable starting point is to identify an enjoyable form of exercise and gradually enhance its duration or intensity over several months, while ensuring it remains pleasurable.

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#### Conclusion

Many individuals may experience varying degrees of difficulty similar to Russell's at some point in their lives, as they seek effective ways to cope with challenging situations. Russell's book helps to normalize the common barriers to seeking help, such as fear, negative experiences with certain approaches, and uncertainty about where to start or how to find assistance. If Russell had pursued therapy, he would likely have been introduced to some of the same strategies he tried, like exercise, reframing things, behavioral deconditioning and abstaining from alcohol consumption. When applied, these methods did provide significant, consistent relief for his social anxiety.

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