Mini-Review

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Is the Nervous System Sympathetic?

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Abstract

Attachment type and threat responses correlate *via* insecure attachments being more prone to display submissive threat responses and behaviours. Pinning the blame on parenting and childhood experiences for dictating our reactions, especially rape responses and the larger social effect on what contributes to the victim mentality and prevents people from speaking out against attackers. Genetics and the nervous/ parasympathetic nervous system are also looked into as causes for the submissive responses that is found more in women and especially those that are insecurely attached.

There is a link between theories such as the critical period for an explanation as to why rape responses may be naturally selective in the same way rape behaviour is, the maladapted or incomplete internal working model therefore may cause a regression to a self-soothing primal state which utilises these behaviours for survival.

Keywords: Insecure attachment; Threat response; Fawning and freezing; Learned helplessness; Agency theory; Evolutionary psychology

Review of Literature

Fear responses

Our threat responses have been shaped by natural selection; the most efficient survival tactics are the ones that are passed down such as a chameleon camouflage or a dart frog's poisonous colours. Most people are familiar with the fight or flight response, the adrenaline-filled sensation of deciding whether to display aggressive behaviours when threatened or to run and hide. However, freeze and fawn are the less known cousins of the fight or flight response and are our other two most used threat responses.

Freezing is staying still and quiet until the danger subsides [1]. It has been found that people who experience social anxiety often display behaviours of selective mutism, which is the inability to speak in anxious situations due to the vocal cords being paralysed by fear [2]. The freeze response is the brain's attempt to avoid being detected by predators by shutting down the body's ability to move, causing a feeling of being frozen or stuck in place by fear [3].

Freezing is likely to be more of an unconditioned response, something we naturally do. However, similar to fight or flight, a decision is made and we choose to hide and wait for it to pass instead of confronting the danger. Things such as a fire or a natural disaster would all commonly cause a freezing response as we view ourselves as powerless compared to it.

The most likely response to a conditioned stimulus is the freezing response due to an innate powerlessness being instilled [4].

Fawning is the desperate attempt to please the attacker to prevent being harmed, survivors of trauma engage in this people-pleasing response by desperately trying to keep their abuser happy [5]. Fawning also includes complying with the aggressor's demands to prevent being harmed; however, this is not be seen as consenting to abuse.

Fawning, however, is the decision to confront and almost momentarily side with the attacker to avoid harm. This could be some sort of self-destructive defence mechanism as it is unlikely that such behaviour is displayed without being learnt first. For example, some trauma survivors have developed this response to minimise harm. Those with anxious-insecure attachment are more likely to have a fawn response as their inconsistent parenting has led to clingy and anxious behaviours, they have lower self-esteem and higher depressive symptoms due to their attachment which could be eliciting this response [6,7].

Agency theory states how we obey authority figures, our natural agentic state of obedience has been developed over the course of human evolution as a survival technique similar to fawning, however, instead

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of pleasing our attackers or authority figures, we have strain on our morals so we transfer responsibility to the authority figure and obey their commands [8]. In Milgram's variations of his initial obedience experiment, he observes that proximity and legitimacy of authority/ appearance are factors that contribute to a person's obedience [9]. This can be applied to modern-day scenarios such as the murder and rape of Sarah Everard who was stopped on her way home by police constable Wayne Couzens in March 2021. He then handcuffed her and took her to Kent in his vehicle where he raped her, strangled her, burned her body and disposed of it in a pond in woodland [10]. The abuse of power in this scenario likely contributed to the offender's success. The victim could have agentically obeyed, viewing Couzens as an authority figure or she could have fawned, attempting to meet his demands to avoid harm.

Seligmann's learned helplessness, which is mainly applied to depression, is the concept that eventually after continuous failure we stop trying and give up [11]. This defence mechanism then reoccurs as people act helpless to prevent trying, an example of this would be a child not attempting their homework knowing their parent will inevitably help them/ do it for them. Again, this can be applied to a victim mentality as a fear response, this learned helplessness contributes to freezing behaviours and not trying to fight back. Learned helplessness also typically manifests due to a lack of self-esteem [12]. This could also be related to a shift in responsibility as a victim may view it as someone else's responsibility to help them such as law enforcement or bystanders, which then allows them to become helpless and have no feelings of guilt or blame as they victimise themselves.

Individuals with an anxious attachment develop a negative internal model of the self, leaving them with the tendency towards negative portrayals of their abilities, due to their interpersonal histories that are dominated by feelings of failure and helplessness [13,14]. Similar to the fawning response, learned helplessness is often caused by abuse or childhood neglect and has an overall correlation with anxious attachment [15].

Adaptive attachment

All of these fear responses have the same catalyst, which is inconsistent parenting as Ainsworth stated this was the cause of insecure attachments [16]. Therefore, inconsistent parenting and the anxious attachment style correlate more with the fearful and submissive fear responses than they do with the more orthodox survival methods such as fight or flight. A 2020 study into gender roles and attachment style found that insecure attachments who take on a more masculine role (disregarding binary gender and purely going off of introspective identity) are more likely to dismiss comfort and be uncomfortable with closeness whereas those who are more typically feminine are more desperate for approval and socially influenced [17]. This then relates to the findings of a meta-analysis that observed that men were more likely to show avoidant attachment behaviours and women more likely to show anxious attachment behaviours [18].

Sexual assault, although also a problem for men, is hugely dominated by the abuse of women. Men take advantage of vulnerable women and their responses, whether positions of power prevent them from acting, they freeze or they try to reason and please the person attacking them to prevent harm. 63% of rape cases go unreported and only around 12% of childhood abuse cases are brought to the authorities [19,20]. These statistics provide evidence for the application of agency theory and learned helplessness to victims of violence as anxiously attached victims lack self-esteem and women, who are the main victims of rape and childhood abuse, tend to be more prone to anxious attachments than men which is why they are so severely underreported [21,22]. Not viewing the benefit of announcing the attack as that would draw unwanted attention to themselves and even attract the attacker to repeat their crime. So, this long-term freezing and not reporting violent sex crimes is another self-defence mechanism similar to learned helplessness to preserve the social self and avoid both physical consequences (such as another attack) and social consequences (such as losing friends and people viewing them differently).

The RAINN states the three most common immediate rape responses are expressed (hysteric screaming and panic), controlled (acting as if nothing has happened) and shocked disbelief (disorientation and difficulty concentrating and remembering) [23]. These responses align perfectly with the expected behaviour of the three attachment types (secure, avoidant and resistant). The controlled and shocked disbelief responses seem to similarly match the freezing response *via* the dissociation and ignorance and fawning could be seen as expressed desperation to prevent further harm. Childhoods of inconsistency and fear are the main onset for dissociative copes which would explain the controlled and shocked disbelief responses [24]. It is then to be decided whether childhood attachment has a direct effect on threat responses, whether these are the responses of only sexual crimes and it is their nature that tailors the reaction or whether we have an internal working model which dictates our threat responses based on how successful we were at regaining proximity to our primary caregiver as an infant and whether the consistency of their parenting acts as a direct catalyst influencing not just our love life like is widely documented but our threat responses as well [25].

Is the nervous system sympathetic?

Sexual arousal causes increases in heart rate, breathing rate and blood pressure as well as muscle spasms in the hands, feet and face as muscle tension

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increases [26]. These are dictated by the sympathetic nervous system, however, the sympathetic nervous system also causes a loss of erection and pleasure during intimacy as it reverts to a fight or flight response [27]. Men also experience a tightening of the testicles in intercourse and during sexual arousal, however, anxiety also causes the testicles to contract [28]. Excessive sweating, leg shaking and tensing occur during both orgasm and in the freeze response, terrifying situations that illicit a freeze response will have high adrenaline just like sex [29]. Cortisol however is exclusive to the freezing response as intimacy hormones negate stress. The nervous system itself is designed to freeze up and allow submission as a loss of arousal and internal hormone chemistry is the only difference between the freeze response and sexual arousal. If you are unable to fight and defend yourself then you do not have a choice, this calls for the more drastic defence mechanisms such as dissociation and fawning which naturally correlate more with women who are also more likely to be victims of these kinds of crimes. The responses are the last resort and if victims could prevent the attacks or defend themselves then they would. The correlation between gender and the naturally selected rape responses that are developed may be due to the insecure attachment style.

The question is to be posed then whether the higher insecure attachment of women is for survival and has nothing to do with parenting style or if it is and acts as a primal state, the inconsistency causing he survival instincts to kick in. This is the case for the avoidant attachment type as they self-soothe and do not need comfort or a secure base, accepting comfort from the stranger and not displaying any favouritism for the mother over the stranger [30]. This independence could be seen as survival instincts and again we have previously mentioned how these behaviours are more common in men whereas women require validation and are more prone to anxious attachments. This could also be caused by some sort of a hunter-gatherer perspective.

In the history of rape, the authors state two hypotheses for the origin of rape. “Rape-specific” is the idea that men who were less desirable to females forced them to reproduce, whereas the “byproduct” theory views rape as an accidental genetic byproduct of male reproductive strategies to try and have as many partners as possible with the least commitment as men do not have to carry children.

Rape was frequent in the primal horde and consent was relative to who the alpha was the strongest male member of the pack [31]. This was the structure of ancient human society and is to be found today in walruses and some primates such as gorillas. The strongest male has domain over all of the females and is free to breed with all of them as he displays his dominance over the weaker members of the horde who fail to pass on their genetics. The primal horde also links back to agency theory as we have evolved to obey for survival, perhaps as a result of natural selection we obey attackers to ensure our survival. If genetic mating and rape strategies are encoded in our genetics, then it is also possible that in females there are defence strategies against the vicious male reproductive strategies such as these freezing and fawn responses. Freezing as well is more of an unconditioned response to threats and violence, potentially the cause for it could have been to prevent danger and to prevent the attacker from becoming forceful or aggressive.

Conclusion

In conclusion, a lot of what we determine as the result of attachment may be merely coveted and reprogrammed by nurturing behaviour. However, rape responses may be determined by genetics which come to fruition when inconsistent or neglectful parenting is experienced by an infant causing their undeveloped internal working model to activate a primal state and that a ‘fully developed’ internal working model is merely a societal creation that enables social behaviours and norms such as the seeking for ideal mates as opposed to maximising the number of mates as the byproduct rape hypothesis would suggest.

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