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## EXPLORING THE ASSOCIATION BETWEEN SUBMISSIVE BEHAVIOUR, SOCIAL COMPARISON AND DEPRESSION IN A CLINICAL AND NON-CLINICAL SAMPLE

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### *Abstract*

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*According to Social Rank Theory, social comparison and submissive behaviour may be adaptive in species that compete for resources as a mechanism to switch off behaviours when loss is imminent (thus saving an organism for injury). In humans, depressive disorder is thought to occur when social comparison and submissive behaviour becomes prolonged. The aim of the present research is to explore the relations between social comparison, submissive behaviour and depression. Method: the participants were a group of patients with depression diagnosis (n = 50) and a group of healthy controls (n = 86). Results showed that association between social comparison and depressive symptoms is statistically significant in both samples, and the association between submissive behaviour and depression is statistically significant only for the non-psychiatric sample. These findings bring new evidence about the role of social rank dimensions in psychopathology, especially in depression. Future studies should enlarge the sample size and test possible relationships with some other variables and the moderators involved.*

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**Keywords:** social rank, depression, social comparison, submissive behaviour

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### 1. INTRODUCTION

According to the World Health Organization (2023), approximately 5% of adults worldwide experience depression and this figure is likely to be even higher as not everyone with depression receives an official diagnosis.

The theoretical and empirical approach to depression has historically been dominated by identifying symptomatology and treatment, while questions regarding the etiology of depression have largely focused on immediate precipitating factors relevant to the individual. While these proximal causes are undoubtedly important for understanding depressive phenomena, an increasing number of researchers are now directing their attention towards an approach based on evolutionary or functional theories.

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The motivation behind using an evolutionary model in this study, and why theories within this paradigm hold significant practical and theoretical importance, is related to the understanding of the role of depressive phenomena in an evolutionary context. It provides insight into the reasons why individuals experience depression.

### ***The Social Rank Theory (SRT)***

The Social Rank Theory (SRT) is one of the most robust theories within the field of evolutionary psychology. SRT is aiming to explain the relationship between social rank and mental health. Unlike other evolutionary theories, SRT specifically addresses the feelings of inferiority and submissiveness commonly associated with depression.

According to SRT, low mood and submissive behaviour are involuntary responses that occur when individuals encounter competitive situations where they are defeated by others, such as in competitions for resources like food or mates, against dominant individuals. These responses serve as a means to inhibit aggressive reactions, communicate a non-threatening status, and facilitate acceptance of the situation. The symptoms of depression, such as submissiveness, withdrawal, and self-criticism, reflect this adaptive response (Price et al., 1994; Gilbert, 2001). Depression has thus been naturally selected to facilitate acceptance of a subordinate role, and its purpose is to prevent further defeats for the individual who has experienced loss (Gilbert & Allan, 1994).

Social rank is defined by two dimensions: the cognitive dimension characterised by social comparison (perception of one's own superiority or inferiority) and the behavioural dimension characterised by submissive behaviour (inhibition in conflictual or competitive situations) (Gilbert & Allan, 1994).

According to Siddaway et al. (2015) meta-analysis, the social rank concepts of defeat and entrapment consistently showed associations with depressive symptoms in both clinical and non-clinical samples. Social rank tested as a predictor of depressive symptoms over time (Sturman & Mongrain, 2008; Feinstein et al., 2013; Dolbier et al., 2013; McGovern & Nazroo, 2015).

### ***Submissive behaviour***

The tendency to act in a submissive manner can be viewed from an evolutionary perspective, so while dominance hierarchies are often talked about, it might be more accurate to discuss hierarchies of subordination. This is because not only aggression determines a hierarchy, but also submissive behaviours that result and how prepared the subordinate is to submit to such a hierarchy.

Submissive behaviour is generally related to perceiving a lower social status and functions as a calming strategy that may involve suppressing hostile feelings, lack of assertiveness, denying personal needs, and desires to please others, thus avoiding threats posed by others. Submissiveness can be signalled in various ways, such as avoiding eye contact, not initiating conversations, refraining from expressing anger, or not defending oneself against criticisms from others (Gilbert & Allan, 1994).

The authors describe two types of submissiveness, one involuntary and the other voluntary. According to the theory of social rank, involuntary submissiveness may be adaptive for species competing for resources as a mechanism to reverse aggressive behaviours when loss is imminent.

Studies like the one conducted by Allan & Gilbert (1997) describe how individuals with depression tend to exhibit submissive behaviour. For example, disregarding one's own worth or having a negative self-perception in social comparisons can lead to a fear of potential negative evaluation, which, in turn, prompts the adoption of submissive behaviour (Gilbert, 2000; Cheung et al., 2004). A prolonged period of submissiveness is linked to the development of depression (Allan & Gilbert, 1997; Gilbert & Allan, 1998; Gilbert, 2000; Cheung et al., 2004; Sturman, 2011).

### ***Social comparison***

There is a body of empirical evidence suggesting that the tendency to unfavourably compare oneself with others, perceiving oneself as inferior in various aspects, is associated with several psychological difficulties, including depression, social anxiety, stress, envy, and jealousy, low self-esteem, assertive and submissive behaviour, and neuroticism (Gilbert & Allan, 1995).

The strong tendency of individuals with depression to engage in unfavourable comparisons that accentuate their own inferiority often has negative consequences. According to the World Health Organization, the suicide risk in boys, particularly recorded in seven countries, has been associated not only with depressive mood and frequent use of social comparison but also with experiencing both simultaneously when the comparison was negative in nature (Dafinoiu and Boncu, 2014).

The present study seeks to identify the relationship between submissive behaviour, social comparison and depression in a clinical and non-clinical adult sample.

## **2. OBJECTIVE AND HYPOTHESES**

### **2.2 OBJECTIVE**

The research aim is to explore the relationship between depression, submissive behaviour, and social comparison in a clinical and a non-clinical sample of adults.

The objectives of the research:

1. To investigate the relationship between social comparison and depression in a clinical and a non-clinical sample of adults.
2. To investigate the relationship between submissive behaviour and depression in a clinical and a non-clinical sample of adults.

### **2.3 HYPOTHESES**

The research hypotheses are as follows:

1. There is a relationship between social comparison and depression in clinical sample.
2. There is a relationship between social comparison and depression in non-clinical sample.
3. There is a relationship between submissive behaviour and depression in clinical sample.
4. There is a relationship between submissive behaviour and depression in non-clinical sample.

### 3. METHOD

#### Participants

The research was conducted on two samples, with a total of 136 subjects: a clinical sample (n=50) consisting of individuals with depression and a non-clinical sample (n=86). The non-clinical sample includes 86 participants, of which 51 are female (59%) and 35 are male (41%), and the clinical sample consists of 50 participants (40 females, 10 males) with diagnosis of depression.

#### Instruments

***Social Comparison Scale (Allan and Gilbert, 1995)***. This scale measures self-perception of social rank and relative social position. The answers, scored on a scale from 1 to 10, are actually global assessments of people in relation to others. Low scores indicate feelings of inferiority and a general self-perception of low rank. The scale was translated to Romanian and the validity in the present sample was tested, demonstrating good reliability, with Cronbach Alpha being significant in the case of clinical ( $\alpha=.77$ ), and non-clinical samples ( $\alpha=.82$ ).

***Submissive Behaviour Scale (Allan and Gilbert, 1994)***. It consists of 16 items that measure various aspects of submissive behaviour. The responses to the items are on a five-point Likert scale, where 0 means never, and 4 - always. The scale was translated to Romanian and the validity in the present sample was tested, demonstrating good reliability, with Cronbach Alpha being significant in the case of clinical ( $\alpha=.78$ ) and non-clinical samples ( $\alpha=.86$ ).

***The Beck Depression Inventory - Second Edition (BDI II)***. It is an assessment tool for evaluating the severity of depression in adults and adolescents aged 13 and older, based on DSM diagnostic criteria. It consists of 21 items, with each item representing a statement that is rated on a scale from 0 to 4, where 0 means absent and 4 - very severe.

#### Procedure

The instruments were administered on paper format following the ethical code and GDPR guidelines, ensuring informed consent from all participants. All participants received detailed information about the study and willingly agreed to participate, fully understanding that their identities would remain anonymous.

#### 4. RESULTS

This chapter includes the presentation and analysis of the obtained data, as well as the interpretation of the results in relation to the existing literature in the field.

##### *Descriptive statistics*

The descriptive analysis of the mean and standard deviations for the scores obtained by the two samples, the clinical and non-clinical, on the Social Comparison Scale, Submissive Behavior Scale, and Beck Depression Inventory, is presented below.

The mean scores on the Beck Depression Inventory (BDI II) for the non-clinical sample are approximately 4, indicating a very low level of depression. The mean scores on the Social Comparison Scale are 81.57 (out of a maximum score of 110), suggesting that a considerable number of participants compare themselves favourably to others. Moreover, the mean scores on the Submissive Behavior Scale are 19 (out of a maximum possible score of 64), indicating a low level of submissive behaviour.

Regarding the participants included in the clinical group, the scores on the Beck Depression Inventory indicate moderate depression ( $M=25.24$ ). The scores on the Social Comparison Scale have a mean of 62.6, suggesting that individuals neither consider themselves better nor worse than others, but it is evident that they tend to compare themselves more unfavourably compared to the non-clinical group. The mean scores on the Submissive Behavior Scale indicate a moderate level of submissive behaviour.

Differences are also observed between the scores on the subscales of the Social Comparison Scale. The clinical group tends to compare themselves more unfavourably than the non-clinical group, especially regarding aspects related to social rank, attractiveness, and group belonging.

##### *Association between social comparison and depression*

Regarding the relationship between social comparison and depression, we found a statistically significant negative correlation in both samples, stronger in the clinical sample ( $r=-.489$ ,  $p<.01$ ) compared to the non-clinical sample ( $r=-.264$ ,  $p<.05$ ).

These results add to the evidence suggesting that social comparison correlates negatively with depression. Similarly, negative correlations were identified by Allan & Gilbert (1995) in both the clinical and non-clinical samples.

We obtained a statistically significant negative correlation between the social comparison subscales and depression for the clinical sample, with the correlation between depression and social rank being  $r=-.346$ ,  $p<.05$ , between depression and group membership  $r=-.409$ ,  $p<.01$ , and the highest correlation being between depression and attractiveness ( $r=-.521$ ). The recorded results fall more into the moderate category, meaning that individuals do not consider themselves to have the highest social rank, but neither the lowest. They also do not feel marginalised or different, but they don't perceive themselves as very similar or accepted either. Regarding attractiveness, individuals with depression tend to rate themselves as

having moderate attractiveness compared to others, but this aspect seems to be the most stringent in terms of correlation.

According to the results, for the non-clinical sample, we did not obtain a statistically significant relationship with the subscales of social rank, attractiveness, and group membership. These results differ from those obtained by Allan & Gilbert (1995), who identified correlations between subscales for both the clinical and non-clinical samples.

Our results are in line with the majority of research in the field, which shows a negative correlation between depression and social comparison. This negative correlation is also typically associated with psychological vulnerability, interpersonal sensitivity, hostility, shame, social anxiety, eating disorders, anhedonia, hopelessness, envy, jealousy, low self-esteem, and neuroticism (Allan & Gilbert, 2000; Gilbert 2002; Troop et al., 2003; Carvalho et al., 2013; etc.).

#### ***Association between submissive behaviour and depression***

According to the results obtained in this study, submissive behaviour correlates positively with depression. We found significant correlation only for the non-clinical sample, where the correlation is of moderate intensity and statistically significant ( $r=.443$ ,  $p=.01$ ).

However, in the clinical sample, although there is a relationship between depression and submissive behaviour, it is not statistically significant.

Our results are similar to other studies that aimed to identify the relationship between submissive behaviour and depression. Studies such as those conducted by Allan and Gilbert (1997), Gilbert (2000), O'Connor et al. (2002), Sturman (2011), etc., have also identified a significant correlation between depression and submissive behaviour.

The results obtained in this study should be treated as exploratory, and conducting further research on this topic is capable of providing new evidence to either strengthen or refute these findings.

## **5. CONCLUSIONS**

The evolutionary approach in psychopathology aims to identify adaptive strategies and their biological mediators that have become maladaptive and psychopathological, for example social anxiety and depression can be adaptive in the sense of helping the individual avoid some of the social norm violations (Gilbert & McGuire, 1998) or disengaging from competitions or unattainable goals (Klinger, 1975, cited in Gilbert, 2000). Anxiety and depression become maladaptive when they lead to vicious circles of increasing social avoidance, unfavourable social comparison or/and defensive submissive behaviours.

Regarding our aim of exploring the relationship between social comparison, submissive behaviour and depression, the results are consistent with the existing literature.

The results obtained in this study indicate that individuals included in the clinical sample report higher levels of unfavourable social comparison and more pronounced submissive behaviour compared to the non-clinical sample. This

tendency of devaluation and exclusion has been observed in numerous studies (Allan & Gilbert, 1995; Gilbert, 2000, Antony, Rowa & Liss, 2005; Troop & Baker, 2008) which included groups of individuals with depression, social phobia, eating disorders, etc.

We found a statistically significant negative correlation between social comparison and depression for both samples, with a stronger correlation observed in the clinical sample. These findings support the results obtained by other researchers (Allan & Gilbert, 1995; Gilbert, 2000; Sturman, 2011) who describe the tendency of individuals with depression to engage in unfavourable comparisons that accentuate their own feelings of inferiority and lead to distancing from others and underestimating their attractiveness.

Additionally, we found a positive correlation between submissive behaviour and depression, but this was only significant in the non-clinical sample, where the correlation was of moderate strength.

Wetherall, Robbb, O'Connor (2019) systematic review showed that perceiving oneself as having a lower rank compared to others is strongly associated with higher depressive symptoms, particularly in univariate analysis, also it has stated that the perceived low rank is connected to suicidal ideation and self-harm.

Depression can bring about numerous negative aspects and profound suffering that is difficult to comprehend for those who have not experienced it firsthand. It is challenging to imagine that depression could offer any advantage to an individual. However, similar to other physiological functions that cause discomfort, withdrawal and inhibition behaviour may serve a functional purpose.

#### **Limitations and suggestions**

One of the limitations of this research is the small number of participants, especially in the clinical sample. Furthermore, we did not test potential moderators. Therefore, some of the future research directions will be to replicate the study in a more representative sample and to test some of the potential moderators.

The results obtained in this study should be treated as exploratory, and further research on this topic is necessary to provide additional evidence and strengthen the presented results.

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