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The Utilisation of Dissociative Mechanisms - Comparative Study in a Clinical and Non-clinical Population

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Abstract: *Dissociative experiences are common in both clinical and general populations. In this study, we had the aim to explore the presence of any differences in the utilization of dissociative mechanisms between two types of populations, namely clinical and non-clinical and also to see if within each group there are differences in the use of these mechanisms. The research group consisted of 216 participants, of which 176 (81.5%) were non-clinical participants and 40 (18.5%) participants with a clinical diagnosis. We used two questionnaires, namely the Detachment and Compartmentalization Inventory and the Dissociative Experiences Scale and a demographic data collection tool. Our results showed that clinical participants scored significantly higher than non-clinical participants on detachment, absorption and compartmentalization. The data also showed that there are significant differences between the use of detachment, compartmentalization and absorption, separately for clinical and non-clinical participants. Detachment, absorption and compartmentalization are dissociative mechanisms used by the clinical as well as the non-clinical population, with no differences between groups in terms of gender. Age appears to influence the use of these mechanisms in the non-clinical population in that they are used less with advancing age. Absorption tends to be used less by married than unmarried people in the non-clinical population. The results of our study converge towards the theory which support the idea of "healthy dissociation".*

Keywords: *dissociation; psychosis; schizophrenia; clinical population and non-clinical population.*

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1. Introduction

In the psychoanalytic tradition, the term dissociation refers to a defense mechanism: a process by which behaviors, thoughts, memories, and feelings separate from one another (Kluft, 1990; O'Neil, 2009; Vaillant, 1994). Dissociation is present from the earliest stages of development (Porges, 2001) and allows the person to temporarily avoid emotional distress by protecting them from excessive stimuli (Schore, 2009). However, when dissociation is the person's primary response to stress, it can become pathological and can generate severe symptoms such as pathological identity dissociation (Howell, 2011).

Dissociation is defined as "fragmentation of the continuity of subjective experience" (Soffer-Dudek, 2017); "disturbance of the normal integrative function of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior" (DSM-5, American Psychiatric Association, 2013); "partial or total loss of normal integration between memory, identity awareness, and control of body movements" (World Health Organization [WHO], 2016).

Scientific interest in the concept of dissociation and the etiology of dissociative disorders has grown significantly in recent decades. Among people with dissociative disorders, based on Pierre Janet's theory, researchers have identified and investigated identity alteration and amnesia as dissociative phenomena (Putnam, 1991), depersonalization and derealization in post-traumatic stress disorder, and dissociative disorders (Carlson, Dalenberg & McDade-Montez, 2012; Lanius et al., 2010). There has been a shift from the unipartite model of dissociation as described by the first theorists to describe this phenomenon to a bipartite model (Brown, 2006; Holmes et al., 2005), and dissociation is no longer identified as a homogenous trait, but descriptions of dissociation include a variety of symptoms and is considered a multifaceted phenomenon. Briere, Weathers & Runtz (2005) describe dissociation as a "multidimensional construct".

Recent scientific literature differentiates between pathological and non-pathological dissociation. For example, Soffer-Dudek's (2017) study suggests that dissociative phenomena vary from day to day to the same extent that they vary from individual to individual. Stiglmayr et al. (2008) complement the perspective that, even in non-clinical populations, everyday distress is associated with dissociative experiences. The authors Hartman & Zimberoff (2023) suggest the perspective that all forms of dissociation arise to have a healthy role on an individual's functioning, becoming unhealthy when they co-opt conscious choice.

Multiple theoretical perspectives, from Pierre Janet's original conceptualization of what became known as "structural dissociation" (Janet, 1907) to more recent formulations of dissociation based on cognitive-behavioral theories (Kennerley, 1996; Kennedy, Kennerley, & Pearson, 2013), have postulated that dissociative states and experiences are the result of psychological processes involved in adapting the individual's functionality to managing overwhelming affects.

Qualitative studies support this theory with their findings that individuals who have experienced dissociative phenomena typically report positive appraisals of their dissociative experiences. The functional role of dissociation can be extracted from a study conducted by Parry, Lloyd & Simpson (2017) in which the 5 persons diagnosed with dissociative identity disorder who took part in the study reported that dissociation helps them to cope, detach from the emotions they feel, which allows them to perform certain activities. Rabeyron & Caussie, (2016) and Parry, Lloyd & Simpson (2016) identified similar findings in their studies.

Thus, we have evidence in the literature supporting that the view that dissociative experiences are exclusively symptoms of mental illness is reductionist, and that the perspective that considers them as complex psychological manifestations that may also have an adaptive role is more appropriate (Marsden et al., 2020). Although this perspective is not new, the adaptive role of dissociation has not been sufficiently explored in the literature.

Studies arguing that mild forms of dissociation and moderate dissociative experiences can be found in the general population can be traced back as far as 30 years ago (Roche & McConkey,

1990; Ross et al., 1991). Ever since then, there has been the idea that dissociative experiences manifest on a continuum, from common manifestations such as emotional numbing, absorption, and imaginative involvement, up to the fragmentation of personality (Fischer & Elnitsky, 1990; Allen & Lolafaye, 1995; Bernstein & Putman, 1986; Ross et al., 1991; Waller et al., 1996; Bowins, 2004; Holmes et al., 2005; Bowins, 2006; Brown, 2006). However, in dissociative and trauma-related disorders, pathological dissociation is present (Krause-Utz et al., 2017). We also know about pathological dissociation which is both prevalent and transdiagnostic (Ellickson-Larew et al., 2020), and also resistant to standard psychological and pharmacological treatment (Reinders, Young & Veltman, 2023).

Dissociative experiences are common in both clinical and general populations (Lyssenko et al., 2018), and normal and pathological dissociative experiences are not clearly differentiated in the literature (Hartman & Zimberoff, 2023). For example, daydreaming is a normal, common, mild dissociation that can become maladaptive when the person develops complex scenarios in which they become addictively compulsively immersed, also exhibiting stereotypic movements while listening to evocative music (Soffer-Dudek & Somer, 2023). Despite their role in the etiology of various clinical conditions, dissociative experiences are described as occurring in more than 76% of the non-clinical population (Aderibigbe, Bloch & Walker, 2001). It is relatively unusual for a group of symptoms commonly associated with clinical conditions to occur so frequently in the non-clinical population.

As a result, the present study aims to provide additional information on the manifestation of dissociation in the non-clinical population by exploring the existence of differences in the use of dissociative mechanisms (detachment, compartmentalization, absorption) between a clinical and a non-clinical sample and also to identify differences in the use of these mechanisms within each group.

Thus, the hypotheses are:

- There are significant differences between non-clinical and clinical participants concerning detachment, compartmentalization, and absorption, in that the results for clinical participants are significantly higher than the results for non-clinical participants.
- Separately for clinical and non-clinical participants, there are significant differences between the use of detachment, compartmentalization, and absorption.
- There are significant gender differences in the use of detachment, compartmentalization, and absorption, separately for clinical and non-clinical participants.
- There is a significant relationship between participant age and the use of detachment, compartmentalization, and absorption, separately for clinical and non-clinical participants.
- Separately for clinical and non-clinical participants, there are significant differences by marital status in the use of detachment, compartmentalization, and absorption.

2. Method

2.1. Participants

The participants in the clinical group were selected from patients diagnosed with a psychotic disorder, between March and October 2020, both at the first episode of onset and at different times of the development of the disease to chronic stages of illness, treated at the Military Emergency Hospital "Iacob Czihac" in Iasi and Vitan Polyclinic in Bucharest. Due to restrictions imposed by the COVID-19 pandemic in hospitals, only 40 patients aged 18-65 years, women and men, diagnosed based on criteria included in the ICD-10 Diagnosis and Classification of Mental and Behavioural Disorders, with schizophrenia (of any type), transient psychosis, schizoaffective disorder, delusional disorder, psychosis not otherwise specified, peripartum psychosis, were included in the study. Patients who could not consent to participation and those with acute psychotic episodes were excluded from the study.

The non-clinical subjects were recruited between September and October 2020 from students at the Faculty of Psychology and Educational Sciences of the "Al. I. Cuza" University of

Iasi, who were attending undergraduate and postgraduate courses at the time of recruitment. 176 students accepted the invitation to take part in the study.

All participants were assured confidentiality of their responses and were treated following the Declaration of Helsinki and the standard ethical rules of the faculty to which the researchers belong.

2.2. Instruments

The scales used in this study are well-known psychometric scales of dissociation that have demonstrated their utility, internal consistency, and sensitivity in the literature (Krause-Utz et al., 2017):

2.2.1. The Detachment and Compartmentalization Inventory (DCI) (Butler, Dorahy & Middleton, 2019): is a self-administered instrument containing 22 items organised into two subscales: one for detachment (10 items) and one for compartmentalization (10 items). It also includes two items for checking the accuracy of responses. For the Detachment subscale Cronbach's Alpha = 0.892, and Cronbach's Alpha for the Compartmentalization subscale $\alpha = 0.921$.

2.2.2. Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986): a 28-item clinical instrument that can be used both to identify patients with dissociative disorders and for research purposes. In research studies, it can be used to quantify dissociative experiences such as amnesia, absorption, and detachment. On a percentage scale from 0% to 100%, individuals are asked to rate the frequency of dissociative experiences in everyday life. On this scale 0% means "never" and 100% means "always". The higher the total score, the more likely it is that the individual has dissociative experiences. It is built for screening purposes only. High DES scores do not indicate that a person has a dissociative disorder, but only suggest the presence of dissociative experiences. A score above 45 suggests a high probability of the presence of dissociative manifestations/dissociative disorder with a low probability of a false positive result. In this study, we used only the Absorption subscale, which achieved a Cronbach's Alpha coefficient $\alpha = 0.917$.

2.3.1. The demographic data collection tool included the following items: age, gender, marital status, ethnicity, and education.

3. Results

3.1. Participants

A total of 216 participants participated in the research, including 176 (81.5%) non-clinical participants and 40 (18.5%) participants with a clinical diagnosis of psychosis.

Participants from the non-clinical group have the following characteristics: 23 are male (13.1%), 152 are female (86.4%), and 1 participant (0.6%) did not provide gender. Age ranged from 20 to 48 years (M = 24.99, SD = 7.33). Of the participants, 14.8% (N = 26) are married, 73.9% (N = 130) are unmarried/in a relationship, 8.5% are not in a relationship (N = 15), and 2.8% (N = 5) did not provide information on marital status. In terms of educational attainment, all participants are attending university.

Regarding the participants with clinical diagnosis (40 participants): 17 are male (42.5%) and 23 are female (57.5%), aged between 25 and 60 years (M = 41.23, SD = 9.07). Of the participants, 52.5% (N = 21) are married, 20.0% (N = 8) are unmarried, 22.5% are divorced (N = 9), and 5% (N = 2) have a deceased partner. In terms of educational level, 62.5% (N = 25) have completed high school, 12.5% (N = 5) have completed university, 20% (N = 8) have completed postgraduate studies, and 5% (N = 2) have completed 10 grades and vocational school.

3.2. Analysis of the normality of the statistical distribution

Kolmogorov-Smirnov and Shapiro-Wilk tests showed that Detachment, Compartmentalization, and Absorption variables are not normally distributed ($p < 0.05$), therefore the square root technique was applied to normalise the distributions. Following the application of

the technique, we find that the variables Detachment and Absorption show a normal distribution (Detachment: S-W $p = 0.238 > 0.05$; Absorption S-W $p = 0.158 > 0.05$). The Compartmentalization variable was normalised by the square root technique according to the Skewness indicator ($Sk = 0.078 < 1$) approaching the normal distribution.

3.3. Assumptions

To test the first hypothesis, the T-test for independent samples was applied.

Table 1. Results of the t-test comparing means by type of participants

Variable	Type of participants	n	M	SD	t	df	p
	Non-clinicians	176	4.46	1.65			
Detachment					-5.525	214	< 0.001
	Clinics	40	5.37	0.68			
	Non-clinicians	176	2.50	1.98			
Compartmentalization					-12.698	214	< 0.001
	Clinics	40	4.98	0.80			
	Non-clinicians	176	5.09	1.93			
Absorption					-3.693	214	< 0.001
	Clinics	40	5.88	0.99			

The results confirm the hypothesis by showing that clinical participants have significantly higher scores than non-clinical participants for detachment [$t(214) = -5.525$, $p < 0.001$], compartmentalization [$t(214) = -12.698$, $p < 0.001$], and absorption [$t(214) = -3.693$, $p < 0.001$] (Table 1).

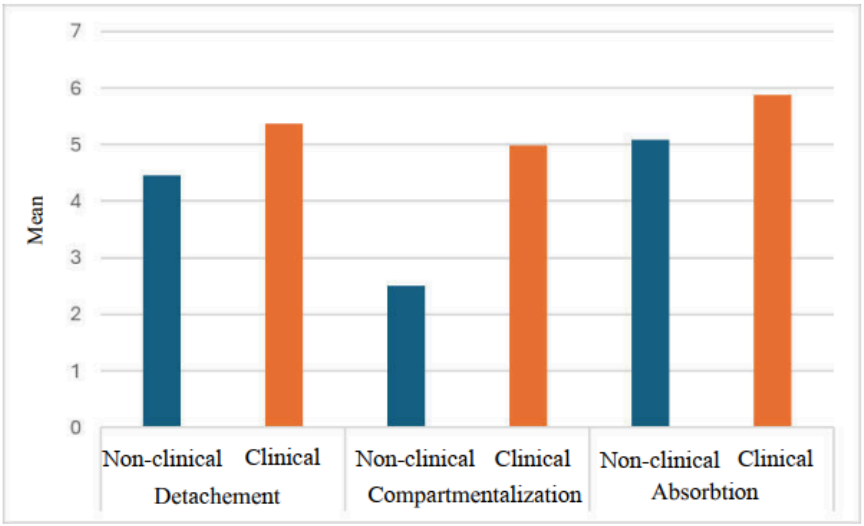

Figure 1. Means obtained for the variables detachment, compartmentalization and absorption by non-clinical and clinical subjects

The Anova Repeated measure test was used to test hypothesis 2. According to the data, the hypothesis is confirmed, so there are significant differences between the use of detachment, compartmentalization, and absorption, separately for clinical and non-clinical participants.

Specifically, for non-clinical participants, there are significant differences between the use of detachment, compartmentalization, and absorption $F(1.875, 328.066) = 347.413$, $p < 0.001$. They use Absorption significantly more than Detachment [$t = 6.27$, $p < 0.001$] and Compartmentalization

[t = 22.47, p < 0.001]. Non-clinical participants also use Detachment significantly more than Compartmentalization [t = 21.56, p = < 0.001]. The means can be seen in Table 2.

For clinical subjects, there are significant differences between the use of detachment, compartmentalization, and absorption F(1.458, 56.871) = 17.089, p < 0.001.

Table 2. Results of the Anova Repeated Measure Test separately for clinical and non-clinical participants

Type of participants	Variable	M	SD	Std. Error
	Detachment	4.46	1.65	0.124
Non-clinicians	Compartmentalization	2.50	1.98	0.149
	Absorption	5.09	1.93	0.146
Clinics	Detachment	5.37	0.68	0.107
	Absorption	5.88	0.99	0.156

They use Absorption significantly more than Detachment [t = 3.26, p = 0.007 < 0.05] and Compartmentalization [t = 4.73, p < 0.001]. Clinical participants also use Detachment significantly more than Compartmentalization [t = 3.73, p = 0.002 < 0.05]. Means can be seen in Table 2.

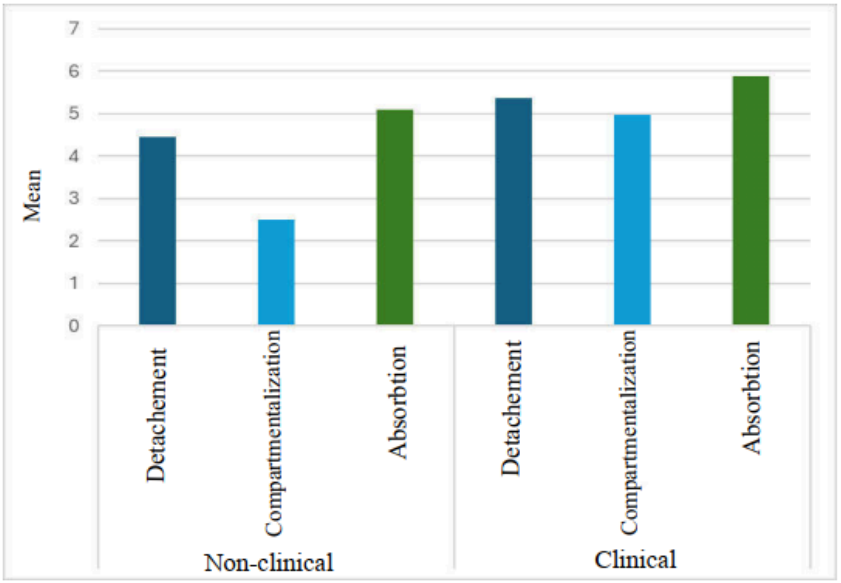

Figure 2. Intra-group averages for detachment, compartmentalization, and absorption

Hypothesis 3, which argues that there are significant gender differences in the use of detachment, compartmentalization, and absorption, separately for clinical and non-clinical participants, was tested with the Independent Samples T-Test.

Table 3. Separate T-test results for clinical and non-clinical participants by sex

Type of participants	Variable	Gender of participants	n	M	SD
	Detachment	Male	23	4.20	1.54
		Female	152	4.51	1.67

Non- clinicians	Compartmentalization	Male	23	2.68	2.11
		Female	152	2.49	1.96
	Absorption	Male	23	4.61	2.11
		Female	152	5.17	1.90
	Detachment	Male	17	5.27	.644
		Female	23	5.44	0.71
Clinics	Compartmentalization	Male	17	4.83	0.48
		Female	23	5.09	0.96
	Absorption	Male	17	6.02	0.88
		Female	23	5.77	1.07

The results refute the hypothesis by showing that, separately for clinical and non-clinical participants, there are no significant differences between male and female participants in terms of detachment, compartmentalization, and absorption ($p > 0.05$).

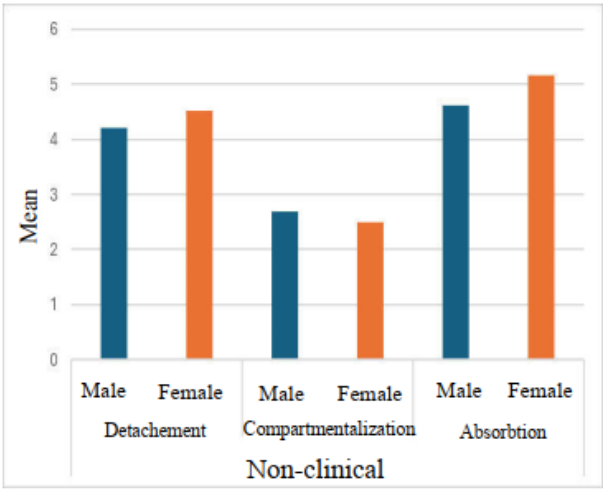

Figure 3. Averages for the three variables by gender, in the non-clinical group

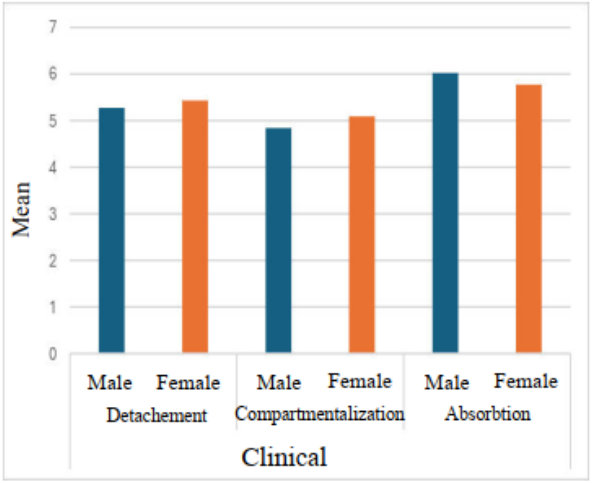

Figure 4. The averages of the three variables by gender, in the clinical group

For the fourth hypothesis, Pearson correlation coefficients were identified. The results partially confirm the hypothesis and show that the age of non-clinical participants is significantly and negatively associated with the dimensions detachment [$r(174) = -0.248$, $p = 0.001 < 0.05$], compartmentalization [$r(174) = -0.166$, $p = 0.028 < 0.05$] and absorption [$r(174) = -0.303$, $p < 0.001$]. The association between variables is modest. In this sense, as age increases, the use of these mechanisms decreases. Among clinical subjects, results show that there is no significant relationship between age and detachment [$r(38) = 0.078$, $p = 0.630$], compartmentalization [$r(38) = 0.188$, $p = 0.246$], and absorption [$r(38) = -0.130$, $p = 0.425$] dimensions.

The One Way Anova Test was applied to test the last hypothesis. Among non-clinical subjects, the hypothesis is refuted with one exception. The data show that there are no significant differences between the outcomes of participants with marital status Single, Married, and Unmarried/In a relationship on detachment [$F(2, 168) = 2.657$, $p = 0.073$] and compartmentalization [$F(2, 168) = 1.293$, $p = 0.277$]. We find, however, significant differences by marital status in the use of absorption [$F(2, 168) = 4.490$, $p = 0.013 < 0.05$]. In this regard, married participants ($M = 4.056$, $SD = 1.60$) use absorption to a lesser extent than unmarried/relationship participants ($M = 5.276$, $SD = 1.98$; $p = 0.010 < 0.05$).

For clinical subjects, the data show that there are no significant differences between the

outcomes of participants with Marital Status Married and Single/In a Relationship, Divorced and Widowed on detachment [$F(3, 36) = 1.403$, $p = 0.258$], compartmentalization [$F(2, 168) = 1.603$, $p = 0.206$] and absorption [$F(2, 168) = 0.681$, $p = 0.569$].

4. Discussion

This study aimed to explore differences in the use of dissociative mechanisms (detachment, compartmentalization, absorption) between a clinical and a non-clinical population and within each group. Our results showed that clinical participants showed significantly higher scores than non-clinical participants on detachment, compartmentalization, and absorption. We observe that both non-clinical and clinical participants use absorption significantly more than detachment and compartmentalization. The results of the present study are consistent with theories that absorption-type experiences are quite common in the general population (Ross et al., 1990, 1991; Roche & McConkey, 1990) and that absorption is typically considered non-pathological or "normal" dissociation (Soffer-Dudek, 2017).

According to Terhune, Cardena & Lindgren (2011), important for the ability to respond to change is the tendency toward compartmentalization-type dissociation. The protective role of absorption, manifested in the form of fantasy, has been emphasised by Bowins (2004) who argued that absorption is involved in generating positive cognitive schemas. A similar result that dissociation sometimes helps people to tolerate stress better when they are under intense stress was also obtained by Černis et al. (2020).

One explanation for the finding of absorption among the general population may be the comfortable detachment it produces from negative states when the person is in a pleasant and positive context (Roche & McConkey, 1990; Ross et al., 1990, 1991; Bowins, 2004; Bowins, 2006). Therefore, people who score high on fantasy proneness are more likely to provide a positive response to adverse emotions (Merckelbach, Rassin & Muris, 2000). Since absorption, with or without the involvement of fantasy, is common, its use in therapy allows it to be brought to the conscious level and applied voluntarily in specific situations.

We note that the results suggest that the clinical group makes more use of compartmentalization as a dissociative mechanism than the non-clinical group.

Without identifying gender differences, detachment, compartmentalization, and absorption are dissociative mechanisms used by both clinical and non-clinical populations. Similar results were also obtained by Șar, Türk & Öztürk (2019) on a non-clinical group of students, finding no gender differences in the scores the students obtained on the instrument through which the authors assessed dissociative experiences. Also, Spitzer (2003) found no gender-determined differences in the prevalence or intensity of dissociative manifestations. However, in studies with adolescent groups, this difference becomes noticeable (Cheng et al., 2022), with girls being more vulnerable to dissociative symptoms and even at higher risk of suicide due to the presence of dissociation (Vine et al., 2020).

A noteworthy result shows that only in the case of non-clinical participants there is a significant and negative association between age and the dimensions of detachment, compartmentalization, and absorption. In other words, as age increases, the use of these mechanisms decreases. In literature, the link between age and the use of dissociation is reviewed by Weiss & Lang (2012) who demonstrate that older people can prevent the formation of the typical age-related self-image by dissociating from their age group. However, their study does not mention anything about the dissociative mechanisms by which this process occurs. One possible explanation may be that as one advances in age, repeated exposure to situations that require the use of stress coping mechanisms trains the person to adapt more quickly, without the need to dissociate in order to cope with difficult or stressful situations but this explanation needs to be tested in future studies.

The findings of the present study also show that married participants use absorption to a lower extent than unmarried/relationship participants. Based on our knowledge, this is the first approach to examine the extent to which a person's marital status influences how they make more or

less use of some or other dissociative mechanisms (detachment, compartmentalization, absorption). The only reference to the link between marital status and dissociation is made by Bob et al. (2015) in their study of the association between the presence of dissociative symptoms in the young adult population and maternal marital status.

Age seems to influence the use of these mechanisms in the non-clinical population in the sense that they are used less as one gets older. Absorption tends to be used less by married than unmarried people in the non-clinical population. The results of our study converge with the recently formulated theory of Watkins & Watkins (1997), which supports the idea of "healthy dissociation". The two authors offered a new perspective on dissociation by arguing that dissociative phenomena are natural organising principles of the psyche that give human beings the ability to adapt, think, act, and respond to lived experiences. "It can therefore be argued that healthy dissociation is a crucial element in human development and differs from psychological dissociative processes in terms of the flexibility and controllability of the boundaries between the dissociated parts" (Watkins & Watkins, 1997).

The present study's theoretical conception of dissociative experiences aligns with that expressed by Jahanshahi & Frith (1998), implying that dissociative strategies could be trained through therapeutic programs in order to promote the recovery of those with psychotic illness. According to some authors (Farb et al., 2007; Leonard, Telch, & Harrington, 1999), dissociation in its mild forms can be invoked voluntarily, as opposed to other defense mechanisms considered pathological. Likewise, absorption and compartmentalization, considered mild forms of dissociation rather than opposing dimensions (Brown, 2006; Holmes et al., 2005), have some therapeutic value. Absorptive capacity and compartmentalization can be learned and consciously applied. Their defensive psychological function can make them useful psychotherapeutic strategies (Bowins, 2012).

Among non-clinical populations, dissociation states may play a beneficial role in the management of traumatic experiences, as the situation may be perceived as an unreal movie scene in which the protagonist is not oneself but is observed from a wider distance, thus producing an inner distancing from overwhelming emotions (Krause-Utz et al., 2017).

Conducting studies in clinical populations and comparing the results with those of a non-clinical population is often a challenge, as the information obtained adds value to knowledge. Our study is even more worthy because dissociation is still a neglected topic of research and treatment, possibly as a result of the challenges it poses (Șar, 2014), but also because of its underrecognition in mental health (Černis et al., 2020). However, the present study has a number of limitations through which the results obtained should be viewed. Perhaps the most important limitation is the low number of subjects in the clinical group, which did not allow the two groups to be equated in terms of demographic variables, which may have implications for the results obtained and does not allow generalisation. Another limitation may be that we have limited ourselves only to the three dissociative forms and their relationship with a few demographic variables. Future studies could consider including a larger number of clinical subjects and examining the impact that other factors, such as excessive technology use, may have on dissociation and further on mental health. Studies testing the potential beneficial effect of dissociation are also needed. For example, a future study could test the extent to which a form of compartmentalization may have benefit for those experiencing anxiety problems, such as creating a mental space in which they feel safe (Bowins, 2012). Also, future studies may use neuroimaging tools to study the extent to which there are differences or similarities in the neurobiological processes underlying dissociation in clinical and non-clinical populations (Krause-Utz et al., 2017; Corrigan & Hull, 2022). The dissociative phenomena need to be further studied, the directions that arouse interest and deserve attention for future studies are related to the manifestation of these phenomena in specific populations, such as individuals with gender dysphoria (Colizzi, Costa & Todarello, 2015; Sigurdsson & Cardeña, 2024) and healthy children (Badura Brack et al., 2022).

Our study, along with others that share the same perspective (Hartman & Zimberoff, 2023),

emphasises and encourages mental health professionals to have a neutral, nonjudgmental attitude with the people they work with, regardless of the level of dissociation they are exhibiting at any given moment.

5. Conclusions

The present study explored and identified the extent to which there are differences between a non-clinical and a clinical population in the use of detachment, compartmentalization, and absorption as forms of dissociation, as well as whether the use of one of the three forms of dissociation will differ by gender, age, and marital status within the two groups of subjects. Our results showed that clinical participants scored significantly higher than non-clinical participants on detachment, compartmentalization, and absorption. Differences in the frequency of use of the three forms of dissociation were also found within each group, but not by gender. For clinical subjects, no differences were identified by marital status, but non-clinically married subjects used absorption to a lesser extent than unmarried/relationship participants.

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